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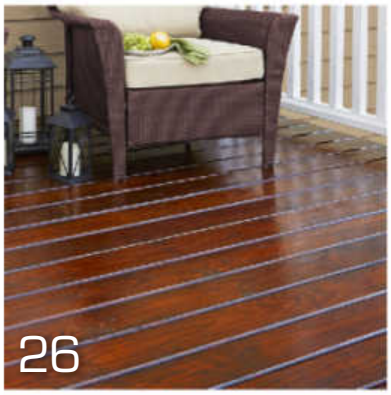

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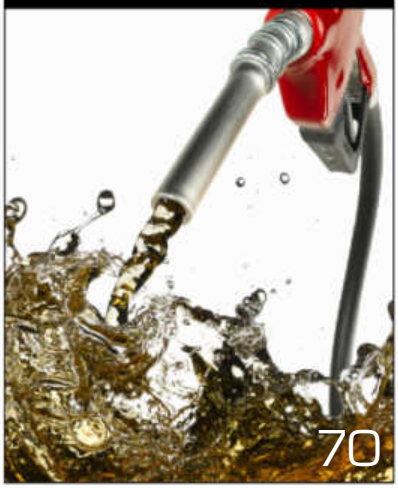


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BY MARK PETERSEN editors@thefamilyhandyman.com

## TEMPORARY WALLPAPER

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## Dissolve mortar like magic

When you're pouring concrete near a house, it's not uncommon for a bit to splash up onto the siding, garage door or window. It's not a big deal if it gets washed off right away, but woe unto you if you let it dry. Removing cured concrete requires harsh chemicals or a whole lot of scrubbing and scraping.

Sakrete has come to the rescue with a product called Concrete Mortar Dissolver. Just spray it on and watch concrete or mortar dissolve. Thick messes will take a couple applications, but it really works. We tried it on some vinyl siding, and it performed as advertised. The best part is that it's safe; safe enough to apply without gloves. It also won't harm sensitive surfaces like auto paint. Some pro masons use it to clean their tools. Visit a hardware store to buy a bottle for $13, or locate a retailer at sakrete.com.

## Eliminate stinky gasoline smells

I actually love the smell of gasoline—except when it's on me. If I spill a little on my hands when I'm at the pump or fueling my lawn mower, I have to wash right away. But even after a wash or two, the smell seems to stay with me for hours.

Not long ago, I replaced the carb on my snow blower and my hand got soaked with fuel. Later that day, I was in my local home center sporting a powerful eau de petrol when I came across Gas Off wipes by Briggs & Stratton. I opened the package right then and there, and by the time I reached the checkout my hands smelled like fresh linen. On my next trip to the store, I bought another pack to keep in my truck. I bought the 15-wipe pack for $5, but Gas Off is also available in single packs and in 8-oz. spray bottles.

**Josh Risberg, Set Builder**

## Spray without pumping

So I bought a chemical sprayer that doesn't require pumping—does that make me lazy? I don't care ... it's awesome! I also love that the wand stays attached to the handle. That wasn't the case with any of my old sprayers. In fact, I can keep the wand attached and spray one-handed. That frees up my other hand for—let's see—a cold beverage, perhaps. The Ryobi P2810 sprayer holds a gallon of chemicals and will spray up to 31 gallons on one charge. I bought my sprayer, battery and charger for $90 at The Home Depot.

**Mark Petersen, Associate Editor**

ART DIRECTION **VERN JOHNSON** • PHOTOGRAPHY **TOM FENENGA UNLESS NOTED**

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# DIY WORK WEAR

## Keep your pants on

For us guys without the hips or butt necessary to keep our pants up with just a belt, suspenders are a must lest we get arrested for indecent exposure. I'm not a fan of clip-on suspenders, however, because the clips never seem to hold. That's why I was happy to find Duluth Trading's Button Suspenders. The wide straps and leather clasps are built to last and have never let me down ... so to speak. And they come in tall sizes for us big galoots. Duluth Trading also sells "Instant" Buttons that I can attach to any pair of pants I choose. The suspenders cost $20 to $23, and a set of buttons is $7 at duluthtrading.com

**Jason White, Associate Editor**

## Lawn repair made easy

Don't make peace with those ugly brown bare spots in your yard just yet. Try Scotts PatchMaster Lawn Repair Mix first. We know that starting new seed can be tricky—it needs the right nutrients and careful watering to be sure it stays moist. Most of us just throw down some seed, water when we think of it, head to the kids' baseball games and hope for the best.

PatchMaster, with its mix of seed, mulch and nutrients, removes the guesswork and gives the seed exactly what it needs to get off to a good start. You still have to be diligent about watering, though. And, as with bare seed, you still should rough up the soil a couple of inches down before spreading the mix. Expect to pay about $20 for a 14-lb. bag, enough to seed about 350 sq. ft. Find it at most home and garden centers.

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# 10 GREAT PAINTING TIPS from our FIELD EDITORS

**We asked for real-world painting pointers—and got hundreds of great tips from our Field Editors. Here are 10 of our favorites.**

EDITOR **JASON WHITE** • ART DIRECTION **MARCIA ROEPKE** • PHOTOGRAPHY **TOM FENENGA**

## 1 No more splashy paint can lids

Ever hammer down a paint can lid only to have paint splatter everywhere? You can prevent that by grabbing a 5-in-1 tool and using the pointy end to punch a few holes through the groove of the can's rim (be sure to rotate the tool left and right a little to widen the holes). The holes allow excess paint to drain back into the can. The lid will cover the holes and make an airtight seal. If you don't have a 5-in-1 tool handy, you can punch some holes with a hammer and nail.

**Larry Gusman**

## 2 PRESERVE A BRUSH WITH A GLOVE

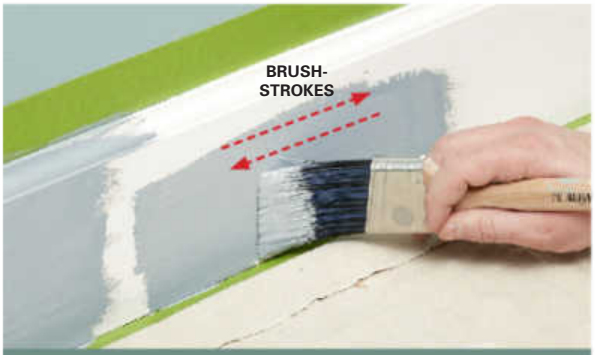
I like to wear disposable nitrile gloves when I'm painting. They not only keep my hands clean but also keep my brush from drying out whenever I take a break. I simply grab the bristles with my gloved hand and then pull the glove over the wet bristles. A twist tie around the handle keeps the air out.

**Ned Webb**

## 3 A push broom handle reaches new heights

**You can spend $10 to $70 on an adjustable extension pole for rolling paint in high places. But if adjustability isn't important or you just want to save a few bucks, try a push broom handle. Most fit perfectly on a paint roller.**

**Dave Moran**




## 4 Slap it on, then smooth it out

When painting trim or other woodwork with a brush, I've found it's best to load my brush with paint and then lay it on heavily in small sections using short, quick strokes—just to get enough paint on the trim to work with. I then blend the paint into the section I painted before and smooth it all out using long finishing strokes in one direction.

**Greg Scholl**

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## 5 PAINTBRUSHES NEED A WRAP

Without something to hold them in place, paintbrush bristles will curl or splay as they dry. The best way to store them is in the cardboard wrappers that they came in. They're not just packaging; they maintain the shape of the bristles as the brush dries after cleaning. If you've already thrown your brush wrappers away, use paper and a rubber band instead.

**Andy Benke**

## 6 Cardboard protects floors best

I don't like drop cloths. They're usually too big, slippery, clumsy and just downright messy—especially when I need to move them around while they're still covered in wet paint. That's why I prefer cardboard. I set it tight to the wall and slide it with my foot as I work my way around the room.

**Beckie Boggs**

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## 7 No-maintenance paint tray

Don't bother cleaning or putting liners in your paint trays. Just pour any excess paint back into the can and let the paint in the tray dry completely before using it again. I have paint trays with a 1/8-in.-thick paint buildup in them. I like them better than clean trays because they're a little heavier and don't slide around when I'm loading the roller.

**Mac Wentz**

## 8 2/3 prep, 1/3 painting

A good prep job often takes more time than painting, but it pays off. The more time you spend prepping a room for new paint, the better your finished paint job will look. Washing, patching, sanding and vacuuming walls, ceilings, trim and doors before you pick up a brush or roller are time well spent. If you don't take care of small imperfections now, they'll stick out like a sore thumb once the paint goes on.

**Arthur Barfield**

## 9 DO THE CEILING, THEN THE WALLS

Before painting any walls, take a good look at your ceiling. If you think it needs refreshing, paint it first. You don't want to paint the walls and then—in a couple of weeks or years—do the ceiling. Rolling the ceiling drops a fine mist of paint onto everything below. Painting the ceiling first also allows you to be less fussy along walls. Any paint that gets slopped onto walls will get covered up later when you paint them.

**Patrick Morrissey**

## 10 Skip brush cleaning between coats

**Whenever I take a break from painting or if I'm done for the day, I toss my brushes into a 5-gallon bucket of clean water to keep them from drying out (make sure all the brushes have the same color paint on them). Then, when I'm ready to start painting again, I swish the brushes around in the water and spin the excess out with a paintbrush-and-roller spinner. This tool costs $10 at home centers. Do the spinning inside a second empty bucket to protect surrounding walls from flying water drops.**

**Ann Wisnoski**

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# Top Ten TIPS

BY JEFF GORTON editors@thefamilyhandyman.com

# Painting windows

All of the advice for a long-lasting paint job on woodwork also applies to windows, but windows present a few unique challenges. There's the glass to avoid slopping on, as well as all sorts of hardware and weather stripping. Window paint is subjected to large temperature fluctuations and moisture from condensation. And, windows have to move freely when you're all done. In this article, we'll show you tips on how to get the best paint job on windows with the least amount of time and effort.

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## 1 Clean and scrape before you paint

It seems counterintuitive to clean the windows first. But it's a good idea for two reasons. First, your paint job will last longer if the intersection of the glass and wood sash is sealed with paint. You can't get a good seal if the glass is dirty. Second, you'll get a neater paint job if you scrape off previous layers of paint and other crud that may be on the glass.

Use any window washing solution you prefer and a new, single-edge blade to clean old paint and gunk from the glass. Apply the solution, then scrape, to avoid scraping on dry glass. Never scrape dry glass. Grit pushed by the razor can scratch the window.

## 2 Remove the sash

It's quicker and easier to paint the sash if you take it out of the window frame and rest it on sawhorses or a workbench. The sashes in most modern double-hung, sliding and casement windows are removable. The photos show removing a casement sash. Most newer double-hung windows are removable by pivoting them in and twisting to release them. Old double-hung windows that are held in by wooden stops are more difficult to remove. It may not be worth the effort unless you're a perfectionist.

## 3 Sand carefully

Sandpaper can scratch glass. And it's really easy to accidentally sand the glass where it meets the wood parts of the sash. You can either be extra careful when sanding along the glass, or you can protect the glass with masking tape. Avoid using a power sander along the edge of the glass because you'd be even more likely to scratch the glass.

## 4 Remove all the hardware

This may seem obvious, but if you look around, you'll notice that a lot of painters skip this step. Remove latches and handles from double-hung windows. On casement windows, it's much easier to get a neat-looking paint job if you remove the operating hardware from the sash. Just be sure to keep track of the screws and other pieces. Take photos with your phone so you'll know how to reinstall the parts.

## 5 Start early in the day

Unless you live in an area free of bugs and criminals, you'll probably want to reinstall your window sashes and possibly close your windows for the night. And you can't really do that with fresh paint. So plan your paint job to allow time for the paint on the sashes to dry before nightfall.




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## 6 Use a 1-1/2-in. angled sash brush

Most of the areas you'll paint on a window aren't very wide, so a narrow brush will work fine and be easier to control than a wider flat brush. And the angled bristles of a sash brush are specifically designed to neatly apply paint in all of the tight corners and small spaces you'll find on a window. Of course, we always recommend spending a little more money for a top-quality brush and then taking care to clean and store it properly.

## 8 Don't bother to mask the glass

Covering window glass with masking tape is so time consuming that it's usually quicker to simply paint neatly along the glass with your brush. If you get a little on the glass, it's easy to scrape it off later with a razor blade. If you'd rather mask the glass, use a masking tape that has edge-seal technology to prevent paint from creeping under the tape.

## 9 Move the sash before the paint dries

This tip isn't as important if you've removed the sash from the window and waited until it's completely dry to reinstall it. But if you paint your sash in place, avoid a stuck window by opening and closing the window a few times before the paint dries completely. Return to the window about an hour after you've painted it and open and close it to break any paint seal that may have formed. You may even need to do this again the following day just to be sure everything is unstuck.

## 7 Avoid painting the tracks or weather stripping

Your window tracks and weather strips won't work correctly if they're covered with paint. In some cases, the easiest way to avoid painting these parts is to cover them with masking tape. If there's space, you can also slip a wide putty knife between the wood frame and the track to keep the paint off. If you do slop paint onto these areas, wipe it off right away with a damp rag.

## 10 Paint old windows with a bendable pad

The upper sash in many old double-hung windows is painted shut, making it difficult to paint the lower rail. You could take time to free up the window, but this can be a big project. Another solution is to buy a Warner Bender Paint Pad (about $3) from a paint store. Bend the metal to an angle that will allow you to apply paint. Then use a brush to spread some paint on the pad and carefully apply paint to the upper sash. It's tedious but necessary if you don't want to look at ugly drips every time you open your lower sash.

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# Paint & finish

## STUFF WE LOVE

### BEAUTIFUL OUTDOOR FINISHES

Would you purposely stain the wood floor in your kitchen with a dull, drab finish? Then why do it to your deck? Cabot has just introduced its Gold Ultimate Finish for decks and outdoor furniture. It creates a furniture-grade finish that can stand up to torrential rains and punishing UV rays. The secret is in the two-coat process. The first coat penetrates the wood; the second adds the glossy shine. Cabot Gold is available at home centers and hardware stores for $46 a gallon.

Mark Petersen, Associate Editor

### HEAT GUN CONTROL

My old heat gun had just one control—me. I controlled the temp by how far I held the gun from the surface. So I love my new Wagner heat gun.

The fan has five speeds, and the heat can be adjusted from a balmy 120 to a blistering 1,200 degrees F. And it has a digital display, so you can dial in exactly the temperature you're after. I can stoke the heat to bubble away layers and layers of paint, or I can lower it to remove that political bumper sticker I'm now embarrassed to showcase. It can also stand up on its own, which comes in handy for heating shrink tape around wire connections. I got my Wagner HT4500 at a home center for $70.

**Mark Petersen, Associate Editor**

ART DIRECTION **VERN JOHNSON** • PHOTOGRAPHY **HSP**

## PRO SPRAYER, HOMEOWNER PRICE

**A paint sprayer can slash the time of many tedious painting projects. The Graco Project Painter Plus is a powerful pro-grade sprayer made by one of the leaders in the field, but it's priced for homeowners. I used it last year to stain two decks, and it saved me days of work. I especially liked it for staining the underside of a second-story deck; overhead work is a terrible job with a brush.**

**The Painter Plus comes with a gun and a 25-ft. hose. It's light and portable and has a flexible supply hose, so you can paint straight from a can or bucket. Cleanup is simple; just flush it with a garden hose. Excellent instructions are included, which is important because sprayers are powerful tools that should be used with care and maintained properly. If you're in the market for a sprayer, The Project Painter Plus, at about $220, is a great choice.**

**Ken Collier, Contributing Editor**

## Speedy roller cover cleanup

I hate cleaning paint roller covers, so I usually just throw them away. Even then, it's always a mess trying to get the paint-soaked cover off the roller frame. I've tried other roller cover cleaners, but Surebonder's Roller Wizard is the only one that cleans the cover while it's still on the roller frame. Just hook it up to the faucet and place the roller inside. Then turn on the water, aim the water jets at the cover, and push the water jets up and down.

The unit shoots clean water deep into the nap and spins the roller at high speed, so the paint flings right off. The cover spins turbo-fast, fast enough to spin almost dry after the water is shut down. I just wish there were a paint-brush wizard. Buy a Roller Wizard online for $45.

**Rick Muscoplat, Contributing Editor**

# Handy HINTS®

FROM OUR READERS handyhints@thefamilyhandyman.com

EDITOR JASON WHITE • ART DIRECTION MARCIA ROEPKE • PHOTOGRAPHY HSP

## GARDEN TOOL HIDEAWAY

A mailbox near your garden provides a convenient home for tools. A small mailbox like this one costs about $15 at hardware stores and home centers. King-size models cost about $35.

**Lynn Samples**

## Plug saver

I'm always running extension cords from my garage out to my yard. To avoid the hassle of the cord getting unplugged or damaging the plug's prongs, I tie a loose loop in the cord and hang it on a heavy-duty screw hook installed right next to the outlet. The hook keeps the plug connected in case I pull a little too hard on the cord.

**Isaac Hanvey**

**Get a $100 gift card for your Handy Hint!**

**See p. 4.**

## An egg-cellent painting tip

Whenever I need to paint something small like a picture frame and want to raise it off the table a bit to paint the edges, I break out these handy egg cartons. I just cut a couple in half and use them to support the frame's edges. I can reuse them several times or just throw them away when I'm done.

**Nancy Luptowski**

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## THE BIG-DOG DINER

My dog is pretty big, and I hate seeing him strain his neck every time he eats from his bowl. You can buy a pair of elevated dog bowls for $20 to $40 at pet stores, but I decided to make my own out of a couple of cheap 2-gallon plastic buckets from a discount store. I just flipped them upside down, cut holes in the bottoms with a jigsaw and set a couple of 2-qt. stainless steel bowls into the openings.

**Randy Roush**

**MEET THE EXPERT**

Stanley, a Bernese mountain dog, prefers a Paleo diet, served on time and at a comfortable height.

## Space-saving workbench

Old doors laid across sawhorses make great temporary workbenches, but they take up a lot of space when you're not using them. Instead of full-size doors, I use bifold doors with hinges so I can fold them up when I'm done working. They're also easier to haul around in the pickup for on-the-road jobs.

**Harry Steele**

## Sand your hands

Some types of wood filler can be hard to get off your hands after they dry, especially if you use your fingers to push it into small cracks and holes. When that happens, I reach for fine-grit sandpaper and sand it off my fingers. It's great for removing dried-on polyurethane glue and canned foam from your hands, too.

**Chris James**

## Cordless kitchen drill mixer

Sometimes I find it tough to mix stuff in a small jar by hand. Like old-fashioned oily peanut butter, for instance. It's not uncommon for me to reach for a power tool to solve a problem, so out to the garage I went. As it turns out, the handle of a mixing spoon fits perfectly in the chuck of my cordless drill!

**Jim Rudolph**

# CLASSIC TRIM
## the easy way

**Low cost.**
**Low stress.**
**High style.**

**by Jeff Gorton**
editors@thefamilyhandyman.com

## WHAT IT TAKES

**Time:** One or two weekends
**Cost:** About $10 per window or door
**Skills:** Intermediate. Requires familiarity with a table saw and router.
**Tools:** Table saw, miter saw, router, router bits, basic carpentry tools. A trim nail gun and compressor aren't required but simplify the project.

You'll find a classic trim style that looks similar to this in many century-old houses. But that's where the similarity ends. Old-school carpenters carefully cut and fit mitered returns at the ends of the window aprons and crown moldings to create the classic profiles.

You could reproduce this look with wood moldings and a good bit of patience. But if you're going to paint, why not follow our lead and make your own moldings from medium-density fiberboard? MDF is easy to cut and shape, and it paints up beautifully. And even better, by cutting the parts to length first and routing the shapes around the corners, you eliminate all the fussy miters.

In this article, we'll show you how to make classic trim using three router bits. You can follow our pattern exactly, or create your own using router bits you may already have. If you've never used a router, this is a great introduction to the tool. Since MDF is relatively cheap, a goof here or there won't cost much.

We'll show you how to make trim for windows and doors. Since most home centers and lumberyards stock at least one choice of primed, wide baseboard, we won't show how to make base. But if you prefer, you can use the techniques we show here to make your own baseboard, too.

## MEET THE EXPERT

Before becoming an editor at *The Family Handyman*, Jeff Gorton spent most of his remodeling career working in old houses, where he gained experience working with classic moldings.

## THE WORLD'S EASIEST TRIM ?

**Don't let the elegant look fool you. This trim is actually easier than the standard "picture frame" trim used in most homes since the 1950s. There are no fussy miters to give you fits, just simple 90-degree butt joints. You can do most of the assembly on a workbench and then simply nail the parts to the walls. And since the trim is painted, you can hide small gaps with caulk.**

**1 REMOVE THE OLD WINDOW AND DOOR TRIM**
Pry off the old trim and pull out any nails remaining in the doorjambs and window jambs. If there's a ridge of paint or finish on the face of the jambs, sand it smooth to prepare for the new trim.

ART DIRECTION **VERN JOHNSON** • PHOTOGRAPHY **TOM FENENGA**

## Time and materials

For this project, you'll need 1/2-in.- and 3/4-in.-thick MDF, and some paintable 1x3 lumber for the stools. We recommend wood for the stool because unlike MDF, it'll withstand a little moisture from window condensation. We used pine, but poplar, maple and birch would also work well.

You can figure out how much material you need using your cutting list, but as a rough estimate you can cut parts for about four or five windows from one 4 x 8-ft. sheet of MDF. MDF is heavy, and full sheets are hard to handle. Ask to have the sheets cut in half lengthwise at the home center. See the Materials List on p. 42.

## Getting started

After you pry off the old moldings, the first step is to measure all the openings and create a cutting list and a shopping list (**Photos 1 and 2**). If you're careful to do the math right, it's easy to create the cutting list by simply adding to the width of the openings.

In the Cutting List for a window on p. 42, we show how much to add to the width inside the jambs for each part of the apron, stool and head casing assemblies. Since you'll be working with fractions, the math can get time consuming. If you have several openings to trim out, consider downloading a construction calculator app for your smartphone to help with the math.

Make a complete and accurate list of all the parts for every window and door. This will save you time by allowing you to rout the shape on all similar parts before moving on to a new router bit and work surface setup.

## Cut the parts

Using your cutting list as a guide, rip strips of MDF on a table saw (**Photo 3**). Cutting MDF creates tons of fine dust, so wear a mask and if possible, move your cutting and routing operations outdoors. If you must cut indoors, put an exhaust fan in the window and connect a shop vac to your saw. Our router included a vacuum cleaner hose attachment port. If yours

**2 MEASURE BETWEEN THE JAMBS**
Make a list of the windows and doors that need new trim. Then measure the width between the jambs and write these measurements on your list.

**3 CUT STRIPS OF MDF**
Use the list of parts you created to calculate how many feet of each trim piece you'll need. Then cut the sheet of MDF into the correct number of strips. It's a good idea to add about 20 percent to your totals to allow for waste and mistakes. Use a miter saw to cut these strips to the correct lengths. Make sure to label all your parts with a corresponding window or door number.

**4 ROUT THE LONG EDGES**
Find a large, flat work surface that you can screw into. Attach a stop and a backer board to the work surface as shown above. Make sure the trim overhangs the work surface slightly to allow room for the router bit guide bearing.

**5 ROUT THE ENDS** Sandwich the trim piece between strips of MDF to hold the trim in place and provide a level surface for the router. Carefully align the ends of the trim piece and two strips of MDF, making sure the ends protrude past the work surface slightly to allow room for the router bit guide bearing. Screw the strips to the work surface. Then attach a stop behind the trim piece to hold it in place. Run the router from left to right across the trim to shape the end. Then flip the trim end-for-end and rout the shape on the opposite end.

**6 ROUT THE APRONS** Rip two lengths of 2x4 to the same width as the lower window apron (3 in.) and screw them together. Toe-screw the 2x4s to the work surface and clamp the lower window apron part to the 2x4s. Now you can easily shape both ends and the long edge with the router. The 2x4s provide the support needed to hold the router level as you rout the narrow ends.

doesn't, you may be able to buy an attachment that fits your router.

After ripping the parts, cut them to length on a miter saw. Label the parts as you go to avoid confusion later. If your table saw leaves saw marks along the edge of the MDF strips, be sure to sand them smooth. The guide bearings on the router bits follow along the edges, and if they are bumpy or rough, the shape you rout won't be smooth either.

## Shape the edges

We're using a handheld router with router bits that include a guide bearing. With this method, you move the router over the pieces to shape the edges. You could also mount your router in a router table. For information on how to build and use a router table, go to familyhandyman.com and search for "router table."

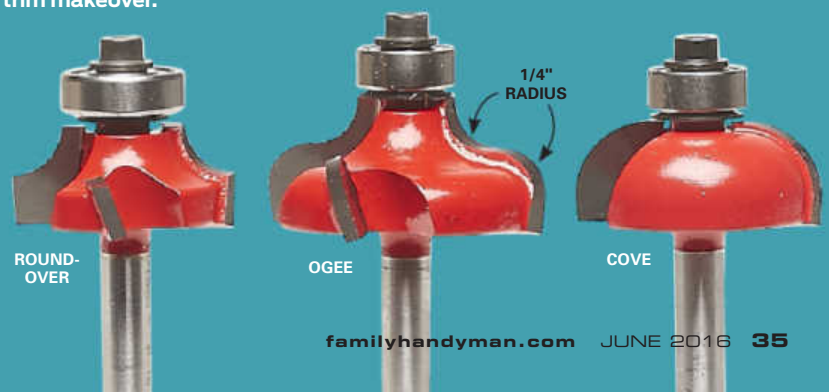
Shaping the long edges of your trim pieces with a router is straightforward. But you need a way to hold the piece steady as you shape it. And the edge has to overhang your work surface slightly to allow room for the guide bearing. **Photo 4** shows one easy setup to achieve these two goals.

Mount your router bit in the router and set the depth. Test the depth setting on a scrap of MDF and adjust it if needed. Using the setup shown in **Photo 4**, move the router left to right. Relocate the backer board for the different width pieces and switch to a 1/2-in.-thick MDF support board for shaping the fillet (see **Photo 7**). Be sure to recess the screws that hold the support boards so they don't interfere with the router base.

Routing the shapes on the ends of the fillet, crown, stool and upper apron pieces is tricky because the narrow trim pieces don't provide enough support for the router. You can solve this problem by sandwiching the piece you're routing between MDF strips (**Photo 5**). You'll have to relocate the support strips and the stop for pieces of different widths and lengths.

Use a cove bit for the lower apron pieces and top cap. Switch to the classic ogee bit to shape the lower cap and upper apron. And use the round-over

**BASIC ROUTER BITS** are the key tools for this job. Using just a cove, round-over and classic ogee bit mounted in a router, you can shape the edges of inexpensive MDF to make the parts for a classic trim makeover.



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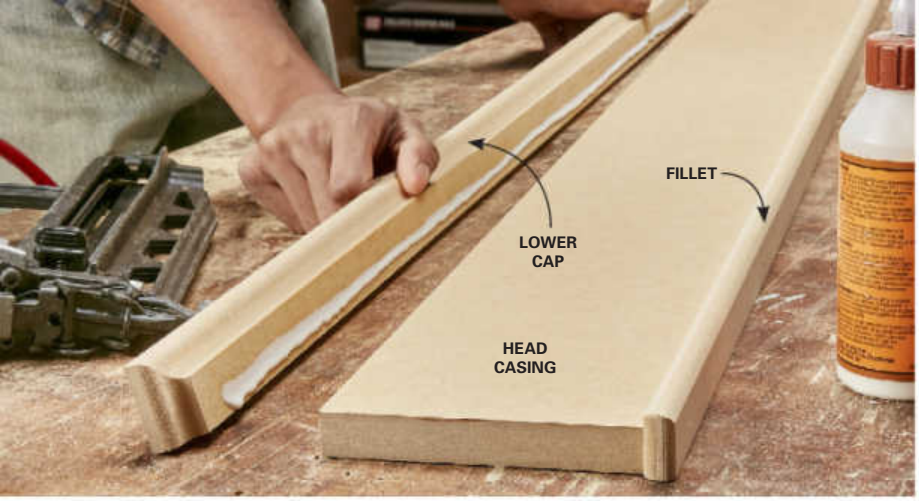
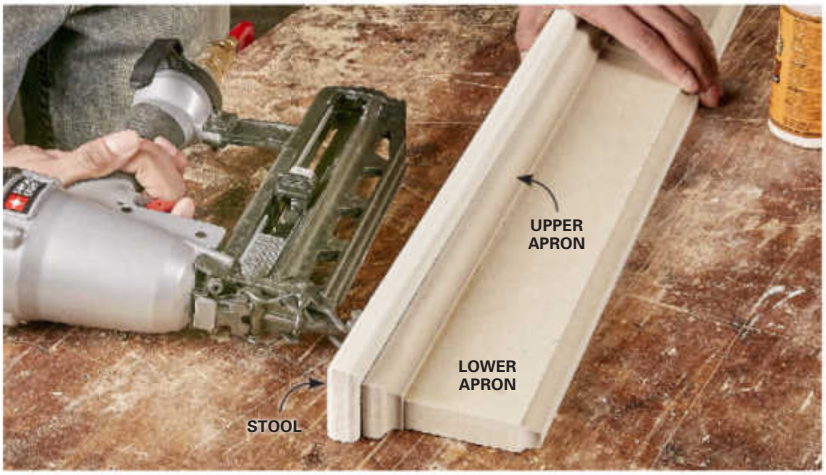



**7 BUILD THE HEAD CASING ASSEMBLY**
Collect the four parts for the head casing and arrange them on your work surface. Spread glue along meeting edges and pin them together with 1-1/2-in. trim nails. Before nailing them together, make sure to align the parts so the end reveals (overhangs) are even.




**8 ASSEMBLE THE WINDOW STOOL AND APRON**
Glue and nail the upper window apron to the lower window apron. Then glue and nail the stool to the apron assembly. Make sure to keep the end overhangs even.

**9 NAIL ON THE STOOL AND APRON ASSEMBLY**
Make pencil marks 3/16 in. inside the jamb at each corner of the window to indicate the edge of the trim and establish a 3/16-in. reveal. Also mark the center of the window and the center of the stool assembly on short pieces of masking tape. Line up the center marks and align the stool with the reveal marks. Then nail through the apron into the wall framing under the window to hold the assembly in place.

bit to shape the top and bottom edges of the fillet and the stool and the long edges of the side casings.

**Photo 6** shows a method for supporting the router to cut the cove in the lower apron piece. Rip two 2x4 pieces to 3 in. and screw them together to use as the support pieces.

## Assemble the parts

**Photos 7 and 8** show how to build the head casing assembly and the stool and apron. Spread a layer of glue between the parts before you pin them together. For super-tight joints, clamp the pieces after gluing them together. You can remove the clamps in about 20 minutes and safely install the assemblies an hour after gluing them up.

**10 MARK THE SIDE CASING LENGTH**
Cut a casing piece about an inch or two longer than needed. Rest it on the stool, and mark the top at the reveal mark. Cut the side casing to length on a miter saw and nail it into place, being careful to keep the reveal consistent from top to bottom. Mark, cut and install the casing on the opposite side using the same process.

**11 NAIL THE HEAD CASING ASSEMBLY INTO PLACE**
Center the head casing assembly over the window, making sure the fillet overhangs the side casings evenly. Then nail through the head casing assembly into the wall framing above the window.

**12 MAKE BASE PLINTHS FOR THE DOORS**
Complete the classic look by adding plinth blocks under the side casings on doors and other openings. Make the 1-1/4-in.-thick plinths by gluing strips of 1/2-in.- and 3/4-in.-thick MDF together. Then rout a cove on the top edge. Make the plinths about 1/4 in. wider than the casing to create a small offset where the casing rests on the blocks.

Priming and applying the first coat of paint before you install the window and door trim will result in a neater job and save you time. Sand lightly after the primer dries, especially along the cut edges that tend to get a little fuzzy. Then apply the first coat of paint. Install the trim, then fill the nail holes and paint a second coat.

## Install the new trim

You'll be surprised how easily the trim goes up. There are no miters to cut. All you have to do is cut the side casings to length. Start by marking 3/16-in. reveals at every corner. You can see the reveal marks on the inset of **Photo 10**. A combination square set to 3/16 in. works great for this. Center the stool and apron assembly and nail it on (**Photo 9**). Then mark and cut the sides (**Photo 10**). And finally, install the head casing (**Photo 11**).

If the drywall around your window or door protrudes a bit past the jamb, trim it back at an angle with a utility knife, or crush it with a hammer until it's flush to the jamb. Otherwise there may be a gap between the moldings and the jamb. If you do end up with a small crack, fill it with good-quality latex caulk before brushing on the final coat of paint.

Start trimming door or other openings by nailing on the base plinth first (**Photo 12**). We made these plinth blocks by gluing 1/2-in. MDF to 3/4-in. MDF and then routing a cove shape on the top edge. If you have several doors to do, make a bunch of blocks by first cutting strips of 1/2-in. and 3/4-in. MDF a little wider than the height of the blocks (we made ours 7-1/2 in. tall) and gluing them together. When the glue has set, clean up both edges by running the strip through the table saw until it's the right width. Then rout the cove along one edge. Finally, cut the blocks to 4-1/4 in. wide.

Finish the door openings just like the windows by cutting and installing the side casings and nailing on the head assembly. When that's done, all that's left is to install the baseboard and finish up the painting. Go to familyhandyman.com and search for "baseboard" for instructions on how to install baseboard molding to complete your project.

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LOT 61776
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69684 shown

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comp at $399

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**WIRELESS SECURITY ALERT SYSTEM**

Bunker Hill Security

LOT 93068 shown
69590/61910/62447

SAVE 56%

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comp at $29.99

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## WOW SUPER COUPON

**TORQUE WRENCHES**

PITTSBURGH

YOUR CHOICE

$11.99 ~~$21.99~~

comp at $29.99

- Accuracy within ±4%

| DRIVE | LOT |
|---|---|
| 1/4" | 2696/61277 |
| 3/8" | 807/61276 |
| 1/2" | 62431/239 |

Item 239 shown

SAVE 60%

72231081

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SAVE 57%

**12 VOLT, 10/2/50 AMP BATTERY CHARGER/ ENGINE STARTER**

CEN-TECH

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66783/60581/62334

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## **Figure A** Classic trim

## Materials List

3/4" MDF (calculate quantity from cutting list)
1/2" MDF (calculate quantity from cutting list)
1x3 x 3/4" paintable wood boards (rip to 2 in. for window stools)
2x4 x 8' (rip to 3 in. to support router for apron cut; Photo 6)
Wood glue
Spackle
100-grit sandpaper (use to sand edges before priming)
220-grit sandpaper (use to sand primer before painting)
Primer/sealer (we used BIN white pigmented shellac)
Paint
1-1/2" finish nails
2-1/4" finish nails

**ROUTER BITS**

1/4" round-over bit (we used Freud No. 34-110, $35)
3/8" cove bit (we used Freud No. 30-104, $34)
1/4"-radius ogee bit (we used Freud No. 38-154, $43)

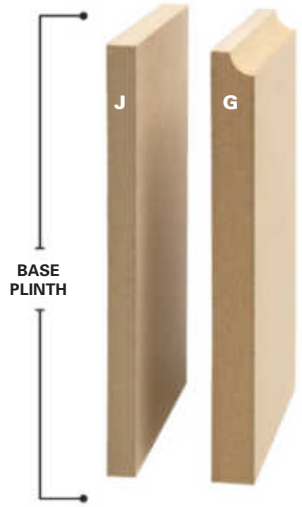
**SAFETY GEAR**

Dust masks
Safety glasses
Hearing protection
Table saw push stick

## Cutting List for a Window

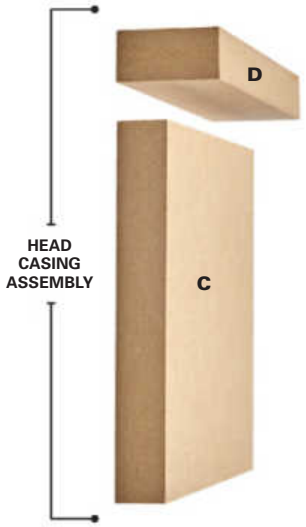
| KEY | WIDTH | ADD FOR LENGTH* | NAME |
|---|---|---|---|
| **3/4" MDF** | | | |
| A | 3" | 8-3/8" | Lower apron |
| B | 1-1/2" | 9-7/8" | Upper apron |
| C | 4" | | Casing |
| D | 5" | 8-3/8" | Head casing |
| E | 1-1/2" | 9-7/8" | Lower cap |
| F | 2" | 10-7/8" | Upper cap |
| G | 7-1/2" x 4-1/4" | | Base plinth |
| **1/2" MDF** | | | |
| H | 1" | 8-7/8" | Fillet |
| J | 7-1/2" x 4-1/4" | | Base plinth |
| **1x3 PAINTABLE LUMBER** | | | |
| K | 2" | 10-3/8" | Stool |

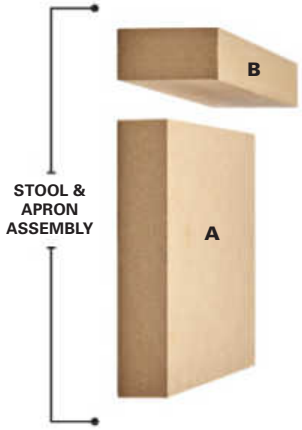
* Add this amount to the measurement from the inside edges of the window jamb or doorjamb to calculate the length of the piece.

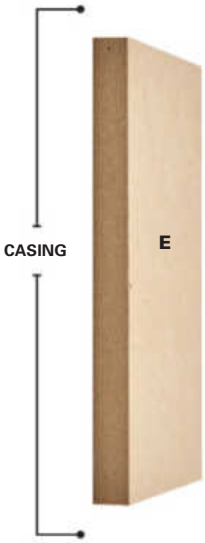


# SIMPLE CRAFTSMAN TRIM

**The trim shown on the cover is even easier to put together than the classic trim in this article. There are no profiles to rout; the pieces are just square-edged. Use the information in the Cutting List below to determine the length of the pieces.**




## Cutting List

| KEY | WIDTH | ADD FOR LENGTH* | NAME |
|---|---|---|---|
| **3/4" MDF** | | | |
| A | 4" | 8-3/8" | Apron |
| B | 1-1/2" | 10-3/8" | Stool |
| C | 5-1/2" | 10-3/8" | Head casing |
| D | 1-1/2" | 11-7/8" | Cap |
| **1/2" MDF** | | | |
| E | 4" | | Casing |

* Add this amount to the measurement from the inside edges of the window jamb or doorjamb to calculate the length of the piece.

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**Almost any wall can be removed—it's a matter of how much you're willing to spend**

# Can I REMOVE this wall?

**by Jeff Gorton**
editors@thefamilyhandyman.com

When I was a remodeling contractor, people were always asking me, "Can I remove this wall?" And my answer was, "Yes, any wall can be removed. But there are a lot of factors that affect the difficulty and cost of the job." In this article, I'll explain these factors, including how to tell if the wall is load bearing, what hidden costs you may encounter, and what professional services you'll need to hire to get the job done.

# What's inside the wall?

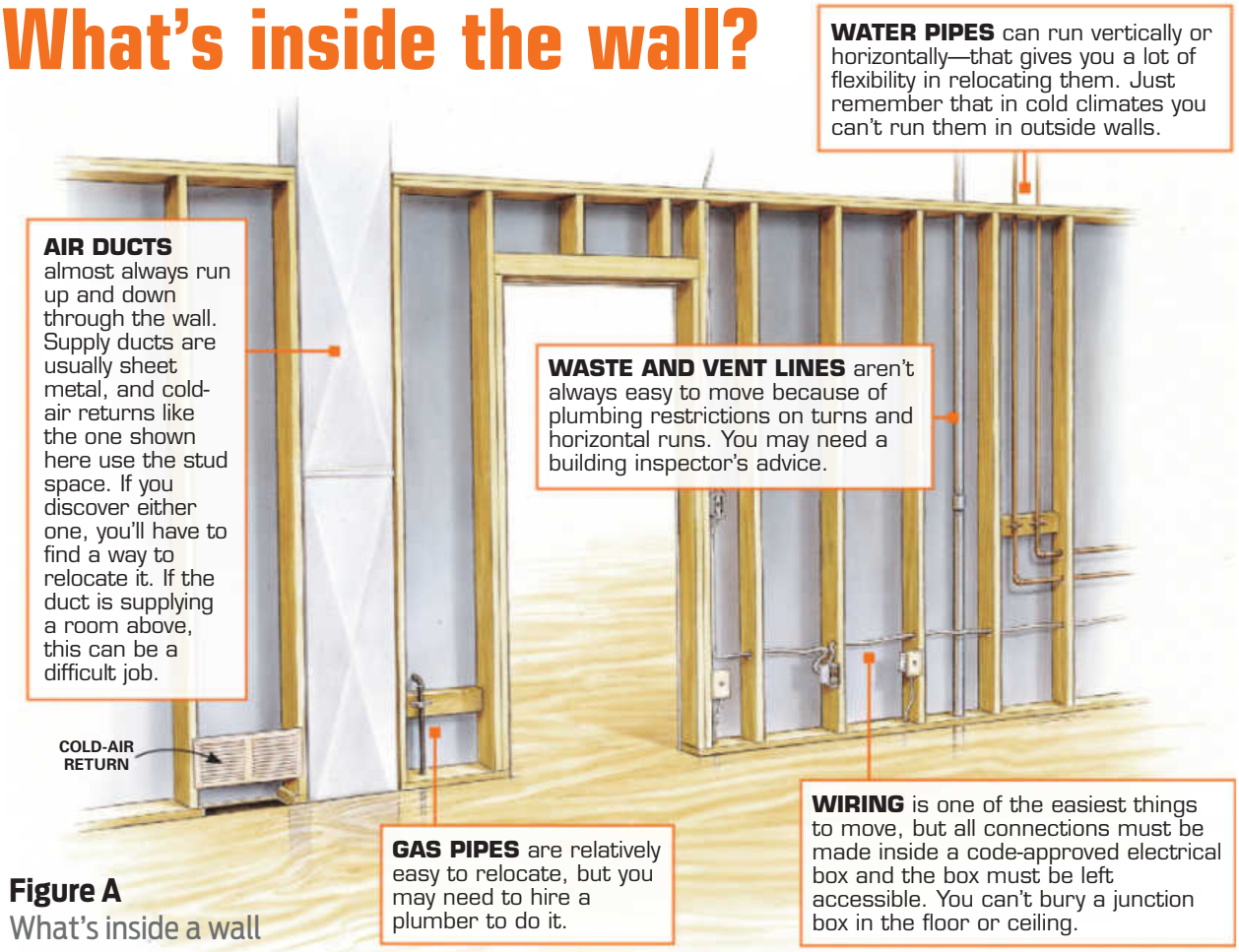



**Figure A**
What's inside a wall

You might think the first thing you should figure out is whether the wall is load bearing (more on that later). But in fact, what's inside the wall can present a much bigger obstacle. Heating, plumbing and electrical lines will have to be rerouted. And sometimes, moving those lines is a huge task—so difficult that removing the wall just isn't practical. **Figure A** shows the most common things found inside a wall.

A main drain running through the wall from a second-floor bathroom could be very difficult and expensive to reroute. Heating and air conditioning ducts often run through interior walls, and these can be hard to relocate. So the first step is to figure out what's hidden behind the drywall.

**CHECK FROM THE BASEMENT TO SEE WHAT'S IN THE WALL**
Look for pipes, ducts and wiring that run up into the wall. If you discover plumbing, heat ducts or wiring and aren't sure whether relocating them is a DIY project, call in a pro to get an estimate of the work involved and what it will cost.

## MEET THE EXPERT

**Jeff Gorton spent his early career as a remodeler and renovator, gaining valuable experience removing walls of all kinds.**

## DETECTIVE TIPS

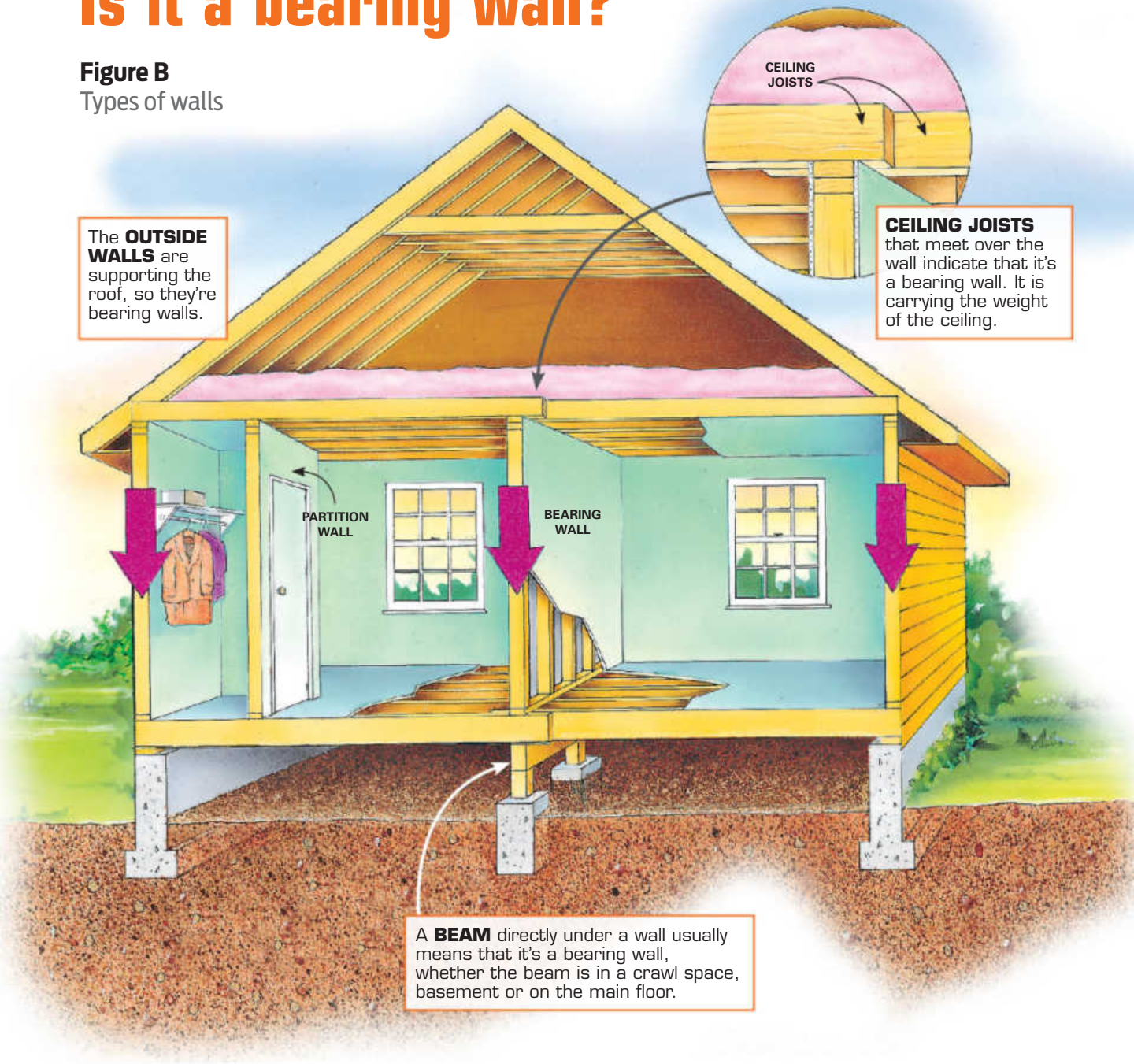
**You can't be absolutely certain what's inside a wall until you tear off the drywall. But you can often get a very good preview by looking for a few clues:**

- **Cover plates, grilles or fixtures—look on *both* sides of the wall.**
- **Pipes or wires exiting the wall in the attic above or the basement below the wall.**

ART DIRECTION **VERN JOHNSON** • PHOTOGRAPHY **BILL ZUEHLKE and VERN JOHNSON** • ILLUSTRATION **FRANK ROHRBACH III and DON MANNES**

# Is it a bearing wall?

**Figure B**
Types of walls




Only some of your walls are needed to hold up your house. These are called bearing walls. The rest of the walls, the partition walls, are simply there to divide rooms. You can remove either type of wall, but if the wall is load bearing, you have to take special precautions to support the structure during removal, and to add a beam or other form of support in its place.

So how do you know whether a wall is load bearing? Some bearing walls are easy to spot (see the central wall in **Figure B** above). If your wall conforms to the situation shown, you can be sure it's load bearing.

Ceiling or floor joists that are spliced over the wall, or end at the wall, mean the wall is bearing. Look for these from the attic. Walls that are stacked may be load bearing. Find these by measuring or by studying a floor plan of your house. In some cases, you may not be able to tell for sure whether a wall is bearing. If you're not sure, hire a contractor or structural engineer to help you figure it out.

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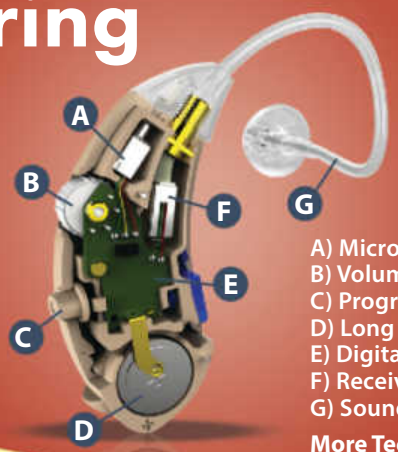


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**They Are Fantastic!** "I just received my HCX hearing aids and they are fantastic. Advanced Affordable is far superior and far more affordable!" **- Chuck D.**

**Wonderful Company!** "I will definitely recommend your company to my patients." **- Dr. Arun P.**

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The HCX™

Most importantly, your new HCX hearing aids work at a **fraction of the cost** of name-brand hearing aids. In addition to the technical components of the hearing aid, you also have a **volume control** that can be modified with a light touch of the finger. Your new hearing aids come with **3 different audio programs** that help you listen in different sound environments. You will love the Open-fit design, that is so light you probably won't even feel that you are wearing your hearing aids – you'll just be hearing clearly!

You can spend thousands for a high-end hearing aid or you can spend **just $329** for a hearing aid that just plain works **(only $299 each when you buy a pair)**. We are so sure you will love our product, that we offer a **100% Money Back Guarantee - Risk Free** if you are not satisfied for any reason. It's time to get great digital technology at an affordable price!

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# Options for replacing a bearing wall

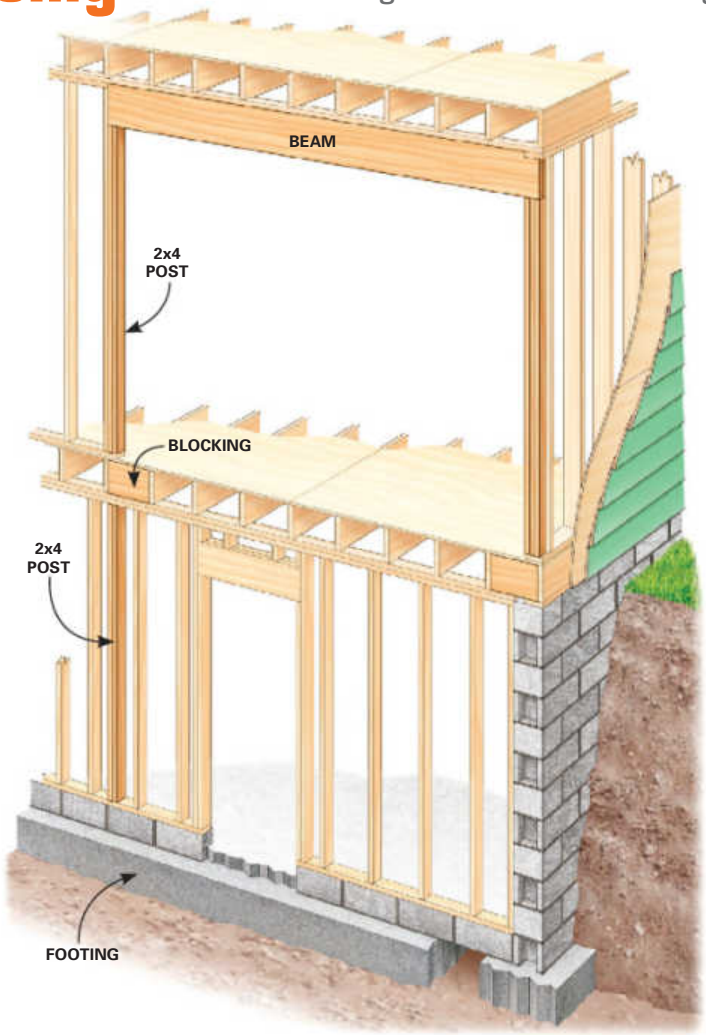
If you want to remove a bearing wall, the main thing to keep in mind is that you have to replace the wall with some other means of support, and transfer the weight down to the foundation. There are a few different ways to do this. **Figure C** shows a typical situation where a beam is installed under the ceiling. But you can also hide the beam by recessing it (**Figure D**).

Adding a beam is only part of the solution. You also have to support the ends with posts. And the posts have to carry the load to the foundation. **Figure C** shows one example of how this works. If you add new posts in the basement, they should rest on footings (**Figure E**).

If you plan to remove a bearing wall, we recommend hiring a structural engineer. An engineer will inspect the house, calculate the size of the beam and posts you'll need, and determine whether you'll need to add support under the posts. In most cases, the city will require beam calculations in order to approve a permit, so the money spent on an engineer won't be wasted. Call around to find a structural engineer who's familiar with residential construction and is willing to take on a small job at a reasonable cost. Expect to spend $300 to $1,000 for this service.

If you're interested in the step-by-step process of removing a bearing wall and adding a beam, go to familyhandyman.com and search for "bearing wall."

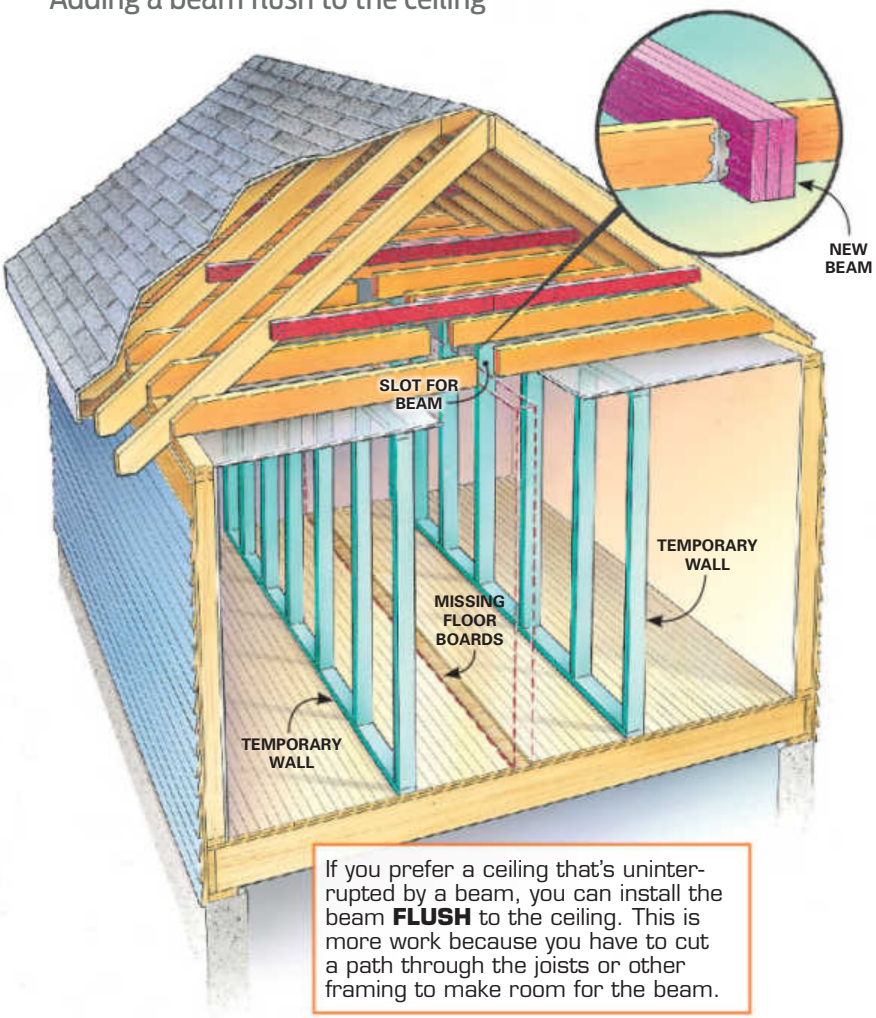
**Figure C**
Adding a beam under the ceiling




**THE MOST COMMON METHOD** to support the structure after you remove a wall is to add a beam under the ceiling. This is the easiest method because you don't have to cut into the joists or other framing above the beam. You also have to support the ends of the beam with posts that carry the load to the foundation.

**ADD A BEAM WHERE THE WALL WAS** This two-part laminated-veneer-lumber (LVL) beam is strong enough to support the load above. Built-up 2x4 posts will support the ends of the beam.

**Figure D**
Adding a beam flush to the ceiling




If you prefer a ceiling that's uninterrupted by a beam, you can install the beam **FLUSH** to the ceiling. This is more work because you have to cut a path through the joists or other framing to make room for the beam.

**Figure E**
Posts require footings

Posts must rest on the foundation or footings to support the load. Here's an example of a **POST FOOTING** in a basement floor.

**ADD HANGERS AND STRAPS**
After the new recessed beam is in place, joist hangers and straps are added to tie everything together.

## WHAT ELSE SHOULD I KNOW BEFORE I REMOVE A WALL?

**Taking out a wall is one of those projects that can mushroom into a lot more work than you originally intended. For example, it's easy to overlook the fact that you'll have to patch or replace the flooring. If you have hardwood floors, and the boards run parallel to the wall you're removing, you can easily patch in floorboards. But you'll still have to refinish the floors to blend in the patch. If the flooring boards run perpendicular to the wall, the job gets a lot more difficult.**

**If you have carpet, tile, vinyl or laminate flooring, you'll probably have to replace it or put up with an obvious patch. The only other option is to install a strip of wood or some other threshold-like treatment to cover the gap where the wall was. And remember, you'll also have to patch the walls and ceiling alongside the new beam and posts, and touch up or repaint the newly joined rooms. Adding these costs to the budget now will avoid surprises later.**

BY MARK PETERSEN editors@thefamilyhandyman.com

# Bending Metal with a Brake

ART DIRECTION **VERN JOHNSON** • PHOTOGRAPHY **TOM FENENGA**

**A metal brake is *the* tool for bending custom metal flashing and decorative trim. Every siding contractor and most roofers have one. It seems like an imposing tool to master, but it's really just a large clamp with a moving hinge. A quality brake costs $1,300 to $2,500, but you can rent one for about $50 a day or $200 a week.**

**We'll show you how a brake works, explain how to create basic profiles, and demonstrate some helpful tips so you can complete your project safely and without wasting a lot of expensive material.**

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## Make a dispenser slot in the coil box

When you have a lot of flashing or trim to bend, it's best to buy your coil stock in 50-ft. x 24-in. rolls. But don't just pull the coil out of the box and cut the tape. If you do, the coil will start to unroll and be difficult to control. Dispensing coil from the box is the best way to keep it clean and prevent dents and scratches.

Cut an opening along one side of the box and pull out just the lengths you need. You may have to open one end of the box in order to cut the tape that secures the roll, and then reseal it with tape.

## Score and bend to cut

Score the coil with a utility knife at the desired length. After scoring, bend the coil back and forth to separate the pieces. A carpenter's square works great as a guide to keep the line straight. Swap out your utility knife blades as soon as they become dull. A dull blade won't score the metal deep enough to separate the pieces easily. Build a cutting table out of a piece of plywood and a couple sawhorses.

## Remove a mar with an eraser

An eraser won't fix a scratch in the paint, but a mar is another story. A mar on a trim piece is most often caused by the aluminum coil rubbing against a sharp aluminum edge of the brake. Mars look like scratches, but they can be removed with an eraser.

## TRIM COIL IS SHARP!

**Always wear gloves. Leather and coated gloves offer more protection than cloth gloves. Set up the brake in a garage or on a side of the house protected from wind. You don't want to wreck expensive coil, and it's always best to keep razor-sharp metal from flying around in the wind.**

## MEET THE EXPERT

**Mark Petersen was a siding contractor for many years before becoming an editor at *TFH*. He has bent about 10 miles of trim coil in his career.**

## Buy premade when you can

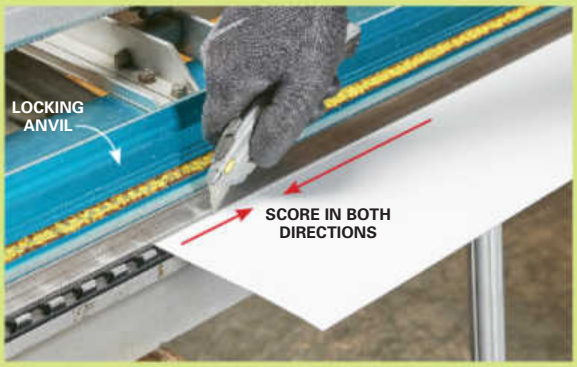
Brakes are perfect for creating custom profiles, but there are many stock flashing and trim pieces to choose from. And just because it's not on the shelf at the home center doesn't mean it's not available. Explain what you need at your home center's lumber desk and see if it can be ordered for you.

## Measure bend marks three times

Once your coil has been cut to size, it's faster to measure each bend location individually than to mark them beforehand on the ends of the coil like you did when you cut the coil to width. Set the coil close to where you think it needs to be and pull the hemming handle forward, but not all the way into the locking position. Just pull it far enough so the locking anvil holds the coil snug but doesn't pinch it tight.

Measure and adjust one end of the coil, then measure and adjust the other. Sometimes when you slide one end in or out, the other end tends to move a bit as well, so it's important to double-check your first measurement to see if the coil is still where it needs to be. Hold the tape measure sideways so the numbers line up with the edge of the metal.

## Cut to width on the brake




**1** Lock the coil into place with the hemming handle located at the top of the brake. Score the coil with a utility knife along the edge of the anvil.

**2** Once you've scored the entire length, pull up on the handles connected to the moving hinge, and bend the metal at about a 90-degree angle.

**3** Use your hands to bend it back down and separate the two cut pieces of metal.

## AVOID TREATED WOOD

**Chemically treated wood is extremely corrosive to aluminum. Cover treated wood with house wrap or felt paper before wrapping it in aluminum.**

## Add strength with a hem

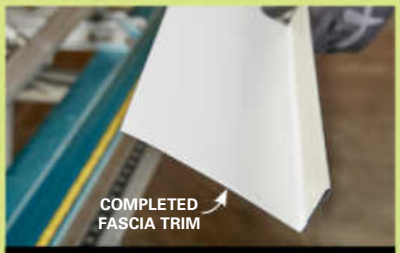
A hem is an edge that has been completely folded over. Hems add strength to exposed edges on all sorts of profiles. Here's how to make fascia trim with a hemmed bottom lip:

**OVERBEND**

**1** Align the outside edge of the coil with the rubber strip on the moving hinge—no need to measure. Lock the coil into place and pull the handles up as far as they will go.

**CREATE THE HEM**

**2** Set the coil on top of the locking anvil and hold it down tight to the moving hinge. Pull up on the hinge handles to completely collapse the metal.




**BEND THE BOTTOM LIP**

**3** The last step is to bend up the hemmed bottom lip.

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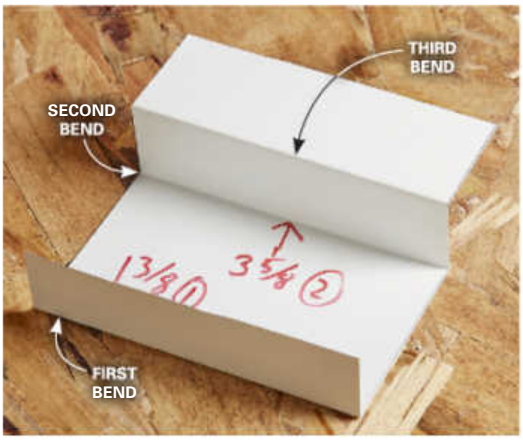
## Hide nails with sill trim

**Most window and door trim fasteners get hidden under the siding, but that's not always the case. For example, when you're covering brick molding and doorjambs together, it's difficult to secure the trim near the door without leaving the fasteners visible. That's where sill trim comes in handy.**

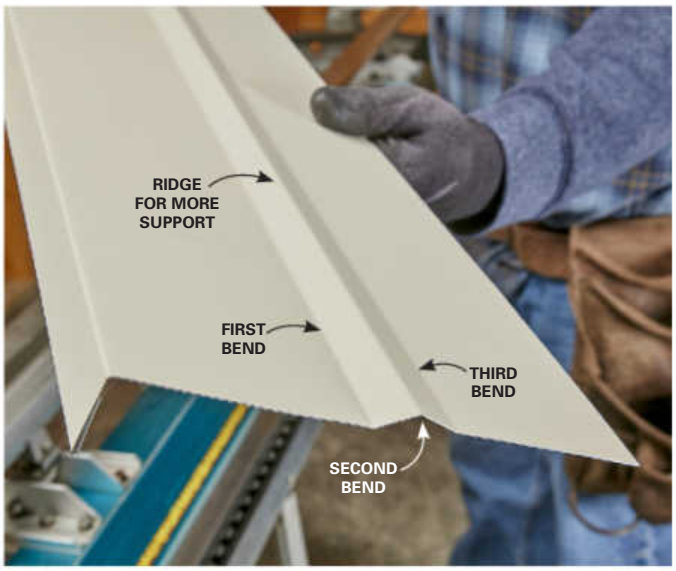
**Nail sill trim close to the weather strip, and then slide the trim piece into the sill trim. The process of making sill trim is exactly the same as for fascia trim (see p. 55) except you overbend the bottom lip and then collapse it in on itself. You basically create a double hem.**




## Make a small template first

There's nothing worse than perfectly executing a difficult profile only to realize that the proper color is on the wrong side. Avoid this by creating a small template or prototype. Cut a small section of coil and bend it the way you think it should be. Mark the appropriate measurements on the side of the template that should be facing up when the coil is in the brake. Also indicate in which order the bends should be completed.

Before bending the "real deals," take the template to the wall to see if it fits properly. When covering existing wood, you want the trim pieces to fit a little loosely when possible, maybe by 1/8 in. or so. This will reduce the chance that the metal will buckle if the wood is warped or twisted.




## Create a rib on wide pieces

It's hard to keep wide pieces of trim from buckling and looking wavy. If the exposed surface on a fascia or other trim profile is more than 8 in., create a rib to stiffen it. With the show side up, make about a 30-degree bend. Rotate the piece show side down and bend another 30-degree angle. Flip the piece again and bend it back 30 degrees, or so the face of the fascia is straight. (I know 30 degrees x 3 doesn't equal 180 degrees, but the point of reference changes with every bend.)

Use the rubber strip on the moving hinge as a measuring guide. Practice on a small piece first. You can buy an accessory that makes ribs in one pass. It's a must-have tool for the pros but not worth $370 for one or two projects.

# HOME HACKS

**by Ken Collier** editors@thefamilyhandyman.com

**What's a "hack"?** To me, it's a creative solution, the discovery of an extra, unintended use for something, whether it's computer software or a monkey wrench. I'm especially fond of home hacks that solve everyday problems with stuff we all have around the house.

When we met Danny Lipford, host of the TV show "Today's Homeowner," we discovered a common love of home hacks. So we put our heads together and shot an episode of the show (see p. 59) demonstrating many of the hacks you see here. Check them out, then tune in to see them in action on TV.

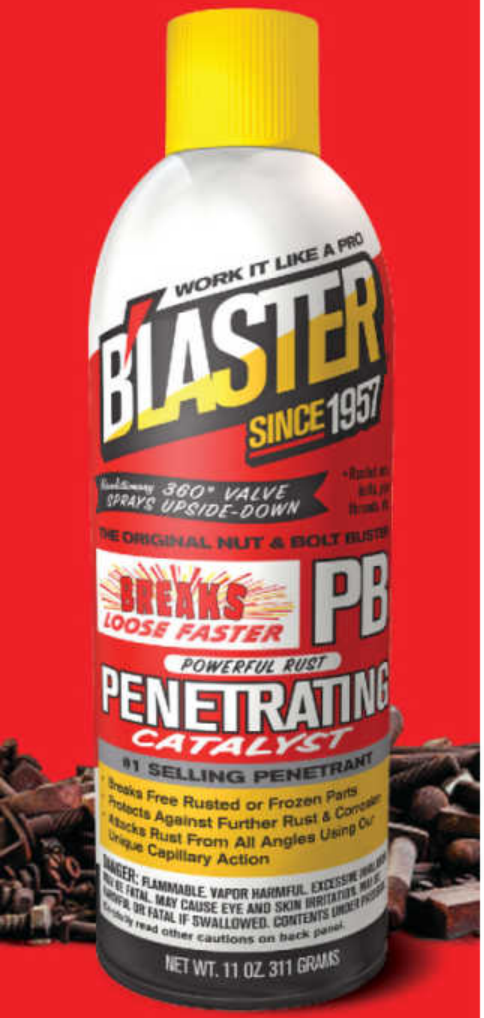
## Hide your Wi-Fi router

Do you need your Wi-Fi router in the living room for good reception, but you're not crazy about the way it looks? Disguise it with some old books! Cut the covers off the books with a utility knife, make a box out of whatever plywood you have handy, and glue them together with construction adhesive. And when you leave on vacation, you've also got a good hiding spot for keys or whatnot.

## Bungee cord ball tower

Some kids are into balls—any kind of balls. So they accumulate. It's hard to find a storage system to keep them all handy, including the ones on the bottom of the pile. Here's an ingenious system using bungee cords. They're firm enough to keep the pile organized, but stretchy enough that you can squeeze the bottom ball out.

# Your Knuckle Busting Days are Over.

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"I've always loved simple tips that solve common problems—in fact, it's what originally sparked my interest in home improvement. It was a lot of fun to get together with our friends at *The Family Handyman* to trade our best tips and see a few of their hacks. Our audience loves this kind of thing."

**– Danny Lipford,** host of the nationally syndicated TV and radio program, "Today's Homeowner with Danny Lipford."

## Make a squeegee from a rake

Need a squeegee in a hurry? Take a piece of pipe insulation and use a couple cable ties to fasten it to the back of a garden rake. Works like a charm, and you don't even have to take it off to use the rake.

## New uses for old glove fingers

Don't throw out your old work gloves. Cut the fingers off and you'll find lots of uses for them. I use mine to protect the tips of chisels when I need to carry them, but they're also good for softening the grip of pliers (see the hack on p. 61) and many other applications.

## Old sneakers as ladder bumpers

You could buy special rubber bumpers for the tops of your ladders to protect your siding or walls, but why? A pair of old sneakers (who doesn't have some!) and a little duct tape will do the job just fine.

## Double up on stubborn nails

Nails can be a pain to remove, especially trim nails with small heads and any nail when the head breaks off. The trick is to use two tools together: a locking pliers to grab the nail shank, and a pry bar to do the pulling.

Danny Lipford, Travis Larson, Allen Lyle and Spike Carlsen doing what they do best—talking home improvement.

## HOME HACKS ON "TODAY'S HOMEOWNER"

**We got together with the folks from the TV show "Today's Homeowner" with Danny Lipford and found out we shared a passion for home improvement. Danny is a remodeling contractor, and the show covers DIY skills, storage ideas, new products for homeowners, cool projects and most of all, home hacks.**

**What emerged was an episode of "Today's Homeowner" featuring Danny and co-host Allen Lyle, and a few of the editors at *The Family Handyman*, demonstrating some great home hacks, shot at our workshop and studio. The original episode aired in April, but you can find it in syndication. For times, stations and clips, visit the show's website, TodaysHomeowner.com. Check it out—you'll find loads of inspiring DIY ideas and project advice.**

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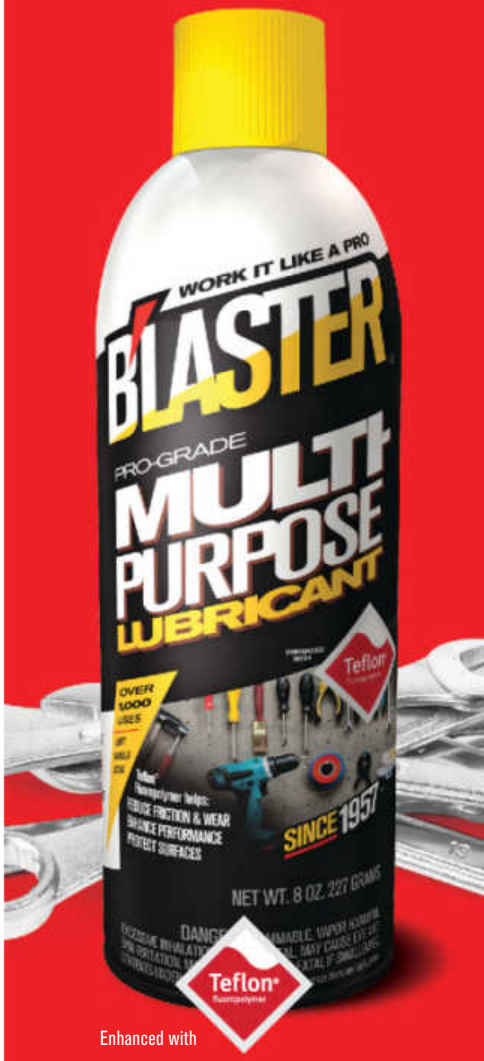
The Most Versatile Tool in the Box.

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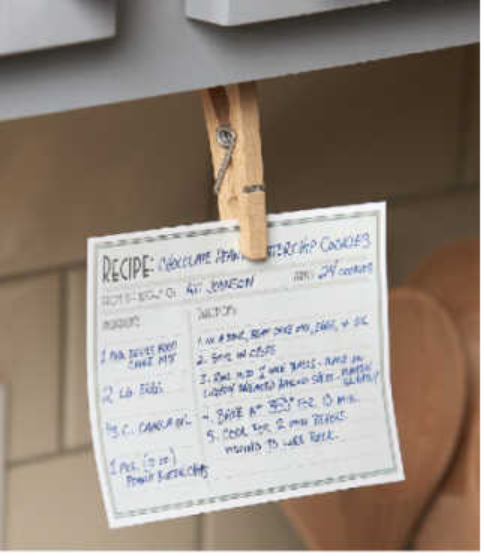
## Garage floor dam

Garage floors are puddle prone: springtime floods, melting ice from tires, you name it. You can keep that water away from your tools and toys with a dam made of expanding foam. It sticks, it's waterproof, and you can walk or drive over it without damaging it. And come summer, it'll scrape right off.

## Hot-glue bumpers

Got a flowerpot or something else with a rough bottom that you want to set on a finished surface? Sure, you can buy special silicone bumpers, but you can also use hot glue. Just put dabs of glue on the underside of the object, let them cool for a minute, then while the glue is still soft, press down. Presto! Self-stick plastic bumpers.



## Flip-down recipe holder

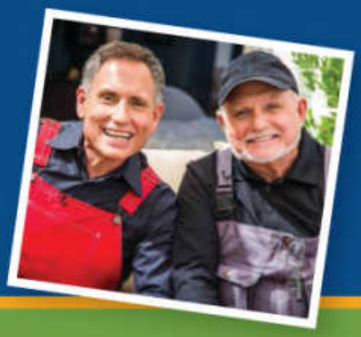
If you want a convenient recipe or note holder in your kitchen, just screw a clothespin to the inside of the bottom of an upper cabinet. Flip it down to hold the paper, then up to store it. It helps to trim a little bit off one leg of the clothespin (plastic or wood) so it's easy to drive a screw through the other.

## Gentle-grip pliers

Here's an oldie with a twist. Use pieces of garden hose or other tubing to soften the jaws of slip-joint or other pliers so you can grip plated surfaces without damage. The twist? Size them so you can slide them up the handles to keep them handy.

# On the House

With the Carey Brothers
**Tips of the Month**



### A CURE FOR TOILET OVERFLOW WOES

Mansfield Plumbing, a leading producer of performance plumbing fixtures, recently launched its new PROTECTOR® No-Overflow Toilet, featuring a concealed secondary drain that prevents messy overflow situations. Made in the USA, the PROTECTOR solves clogged toilets overflowing water by redirecting excess water into a concealed secondary drain hidden within the bowl. The PROTECTOR stays clean longer than standard toilets. A highly engineered PuraClean™ glaze makes the bowl bacteria resistant and easier to clean. Available as a SmartHeight™ toilet, the 1.6 gallons-per-flush PROTECTOR sits 16½" tall and meets ADA standards, making it easy to sit and stand from this easy-access toilet. **mansfieldplumbing.com**

### PREVENTING LOOKYS IN YOUR LOO

Windows over tubs and showers, which provide natural light and ventilation, are as popular as ever. However, privacy-conscious consumers are steering away from clear glass and mildew-laden window treatments that accompany them. A popular alternative, glass block savors natural light, but has customarily thwarted access to fresh air. Not any longer! Thanks to innovations in the window category, you can have the best of all worlds – privacy, natural light, style and fresh air. Hy-Lite®, a U.S. Block Windows Company, is a prominent manufacturer of privacy windows. Hy-Lite offers a wide selection of customized, pre-framed acrylic block windows, glass block windows and decorative glass windows, available in new construction as well as custom-sized retrofit. Avoid prying eyes with this crucial component of stylish first floor living. **hy-lite.com**

### ROOFING RENAISSANCE 101

Your roof is your protective layer from the elements. Ideally it should be impact- and fire-resistant, as well as beautiful. Two highly popular choices – natural slate and shake – evoke traditional charm, however they can be pricey, heavy and, in the case of shake, a fire hazard. Durable and attractive manmade alternatives such as polymer slate and shake roofing tiles are growing in popularity. They capture the authentic look of natural materials but can be more resistant to chipping, flaking and splintering as well as a cost effective alternative. DaVinci Roofscapes offers an impressive array of more than 50 colors and blends for an enhanced look, plus they resist fire and severe weather. What's not to love? **davinciroofscapes.com**

Ask the Carey Brothers a home improvement or remodeling question on their live radio broadcast every Saturday from 9:00 a.m. to 1:00 p.m. Eastern Time.

Call toll-free at **1-800-737-2474** to ask your question.

Visit their website at **OnTheHouse.com** for recaps of the show & other helpful info.

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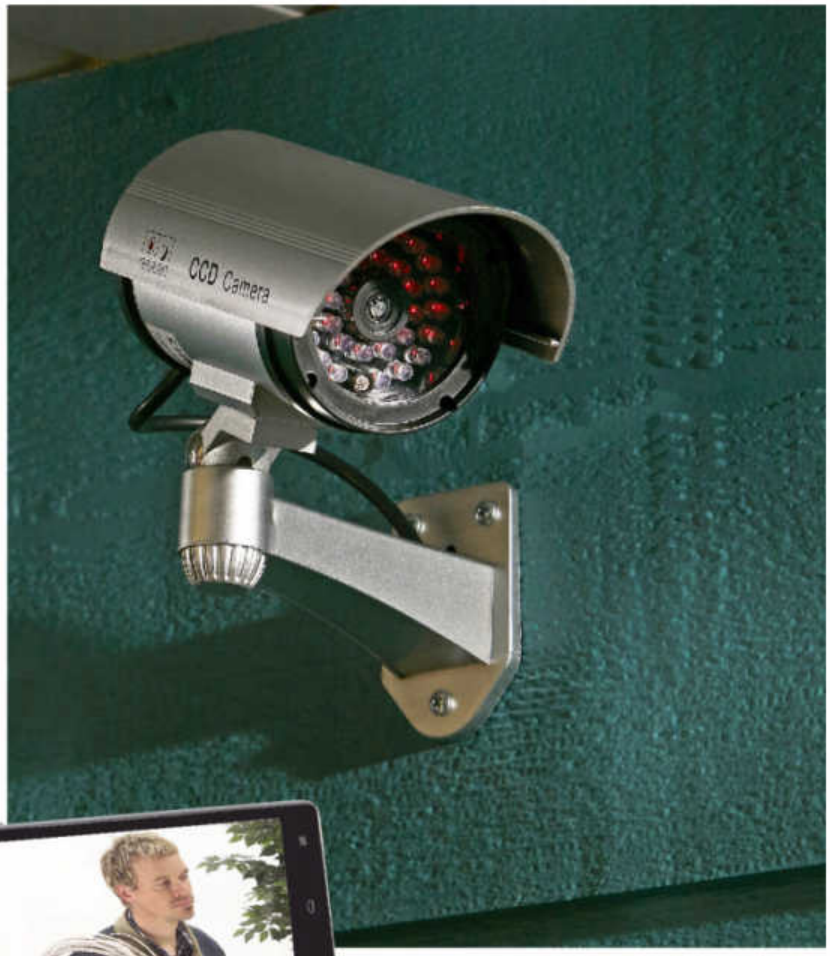
BY JASON WHITE editors@thefamilyhandyman.com

# Surveillance cameras

If you've ever considered installing surveillance cameras around your house but assumed they would be too expensive or hard to set up, you'll be happy to learn that's not the case. In fact, there are lots of inexpensive options. And most—thanks to Wi-Fi technology—are pretty easy to set up, control and monitor from the comfort of your computer, smartphone or tablet.



ART DIRECTION MARCIA ROEPKE • PHOTOGRAPHY TOM FENENGA

## Get the features you want

Do an Internet search for "surveillance cameras" and you'll find a dizzying array of products and options with many different price points.

We surveyed the current crop of cameras for you and found that most have a lot of the same features and can be had for only $50 to $200. So before you start shopping, think about the features that would fill your camera needs.

- **PAN, TILT AND ZOOM:** Some cameras let you remotely control the direction they're pointing at, which might be important depending on how large an area you want to keep an eye on. Most with this feature will rotate up to 350 degrees, which is like having eyes in the back of your head!
- **WIDE-ANGLE LENSES:** If you would like to monitor a large area but don't want your camera to call attention to itself by moving around, look for a camera with a wide-angle lens. These cameras tend to be smaller than their pan-and-tilt counterparts, making them easier to hide.
- **HIGH-DEFINITION VIDEO & PHOTOS:** With most cameras, you can capture and store high-quality video and photos on an SD card, a cloud service (remote server), a DVR (digital video recorder), or your smartphone or tablet.
- **MOTION DETECTION:** Many cameras are activated by motion and will start a recording, send an email or app alert to your mobile device, or both.
- **NIGHT VISION:** Thanks to infrared technology, the ability to see intruders after dark is possible with all the cameras we looked at.
- **FREE MOBILE APPS:** Downloadable apps let you watch live video, capture video and photos, and control pan-and-tilt functions on your camera remotely over the Internet.
- **TWO-WAY AUDIO:** This feature makes it possible to communicate with the person you're watching, allowing some surveillance cameras to double as baby monitors.
- **INDOOR AND/OR OUTDOOR APPROVED:** Some cameras are water-resistant and rated for outdoor use. This can mean the difference between noticing somebody lurking outside and seeing somebody after they've already broken into your house.

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# SURVEILLANCE CAMERAS: 4 basic types

## 1. Wireless

**If you don't want to snake wires through walls or be limited by the location of electrical outlets, consider a fully wireless camera like the Arlo by NETGEAR ($180). This little camera is small but big on features! It has a built-in magnet so you can stick it on the side of a metal object or attach it to a metal ball mount (included). Video recordings are motion activated and get stored on a cloud server, and the camera sends app alerts or emails to you with links to the video. You can also stream live video on your smartphone, tablet or computer.**

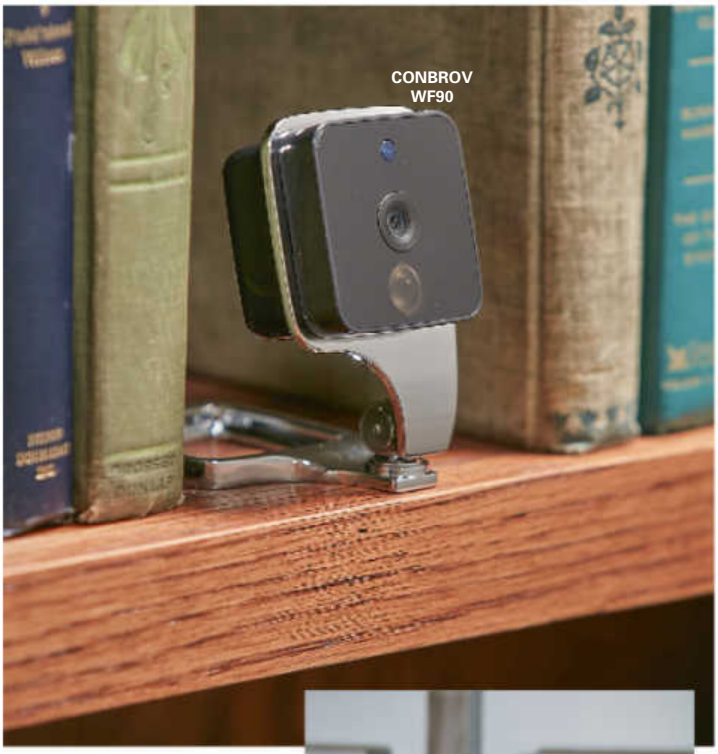
**The camera is powered by four non-rechargeable lithium batteries that last four to six months. It comes with a base station that you plug directly into your Internet modem, or you can buy additional cameras for $160 each and pair them with your existing base station. Sets of one or more cameras complete with base station are available for $180 to $650. Wireless outdoor cameras from other makers range from $80 to $200.**

## 2. Hardwired

These full-featured "security systems" are about as good as they get, but setting them up takes a bit of work. They're hardwired, so you'll likely have to snake some power and video cables through walls and ceilings to mount the cameras exactly where you want them.

Many of these kits—like the **Funlux Home Security Camera System** ($170) shown here—include multiple high-resolution, full-color water-resistant cameras that can be mounted indoors or out, and will record several days' worth of video on a dedicated DVR. You can also watch live video from any or all of the cameras on a high-definition TV or remotely via your smartphone or tablet. Similar systems from other manufacturers cost $150 to $1,200.

## 3. Partially wireless



We're calling these cameras "partially" wireless. The **LeFun C2** ($130) and the **Conbrov Wf90** ($100) shown here connect wirelessly to the Internet via your home's Wi-Fi router, but require cords for power. Most cameras like these are rated for indoor use only.

The LeFun and others of its type give you the ability to control pan (left to right) and tilt (up and down) via your mobile device. The Conbrov and similar models sport stationary wide-angle lenses. Both of these cameras feature built-in speakers and microphones for two-way audio, night vision, motion detection alerts, and options for recording and storing video. You can also watch recorded or live video from your smartphone or tablet. Similar cameras from other manufacturers cost $35 to $100.

### DO FAKE CAMERAS WORK?

Sometimes a realistic-looking fake camera might be enough to thwart would-be intruders. See the security camera in the first photo of this article? It's a fake! Made by several manufacturers, they can be had for $10 to $30 for one or more units. The one shown here is the **UniquExceptional Fake Security Camera** ($10). It can be mounted anywhere and has 30 illuminating LEDs that turn on after dark, making it look even more real. You won't be able to watch anyone lurking around your house, but a "camera" like this might just prevent a break-in.

## 4. Game cameras

Also called "trail" or "scouting" cameras, game cameras are designed primarily for hunters and wildlife photographers. However, if the spot where you want to place a surveillance camera is in a wooded area without an electrical outlet or Wi-Fi signal, a camera like the **Stealth Cam P22** ($100) shown here might be just the thing. While it won't send you alerts or allow you to stream live video over the Internet, this camera—which you just strap to a tree—will capture high-quality photos and video whenever a person or animal walks by, even at night. This type of camera is powered by regular batteries or an external battery box and stores images on a removable SD card that holds up to 32GB of media. When you want to see what the camera recorded, you just connect it to your computer with a USB cable (or plug the SD card directly into your computer or card reader). Similar cameras from other manufacturers are available for $100 to $400.

# DIY Quiz

BY ERIC SMITH editors@thefamilyhandyman.com

**Put on your thinking cap and take this month's quiz to see just how smart you are when it comes to DIY. Here's how it works:**

- There are easy, intermediate and really tough questions all mixed together.
- There may be more than one correct answer!
- Get the answers and your DIY rating on p. 82. Good luck!

ART DIRECTION MARCIA ROEPKE • PHOTOGRAPHY HSP

**1. True or False? If a bifold closet door is hanging crooked, you can fix it by adjusting the pivots at the bottom and the top.**

**2. A benchtop thickness planer has the ability to:**

**A.** Flatten a cupped board.
**B.** Make a long, bowed piece of wood perfectly flat.
**C.** Plane both sides of a piece of wood simultaneously.
**D.** Plane off as much as an inch of stock at a time if the wood is soft.

**3. You're replacing a doorbell button, but you can't remember which wire went on which screw and there are no markings on the new doorbell. What do you do?**

**A.** Use a continuity tester to figure out which wire goes where inside the house.
**B.** Panic and call an electrician.
**C.** Nothing. It doesn't matter which screw the wires are attached to.
**D.** Abandon the wires in the wall and buy a battery-powered, wireless doorbell.

**4. A bed that lifts up and disappears into a tall wooden cabinet or section of wall is called a:**

**A.** Day bed
**B.** Convertible bed
**C.** Murphy bed
**D.** Rollaway bed

**5.** True or False? The "rough-in" measurement for a toilet is measured from the center of the toilet bolts to the studs.

**6.** What is this type of dormer called?
**A.** Valley
**B.** Shed
**C.** Gable
**D.** Eyebrow

**7.** True or False? Lumberyards sell 92-5/8-in. "precut" studs so that you can quickly frame and drywall a room with 8-ft. ceilings without cutting any studs or drywall.

**8.** True or False? In this photo, the miter would probably close up if you recut the unfastened vertical trim piece at about 44-3/4 degrees.

**9.** True or False? A floating ball is often used to prevent sewage backups in floor drains.

**10.** Which of these door problems can be solved by replacing one of the 3/4-in.-long screws in the jamb side of the top hinge with a 3-in. screw?

**A.** The upper half of the door on the handle side scrapes against the jamb.
**B.** The lower half of the door on the handle side scrapes against the jamb.
**C.** The handle side of the door scrapes against the floor.
**D.** The hinges creak loudly when you open or close the door.

**Find the DIY Quiz answers on p. 82.**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BY RICK MUSCOPLAT editors@thefamilyhandyman.com

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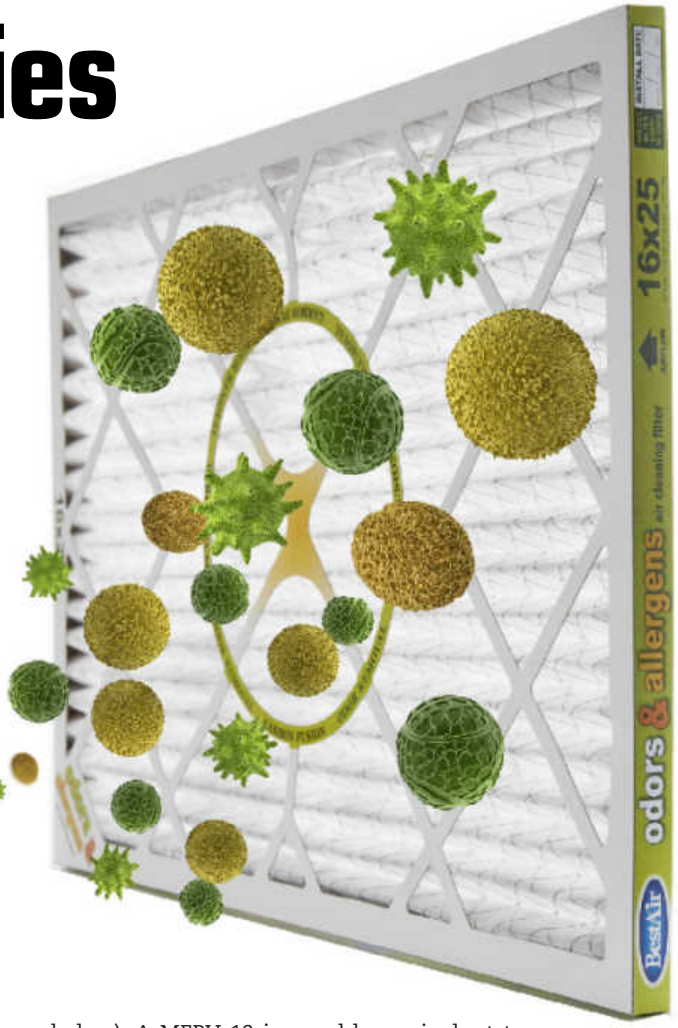
# Fight allergies with furnace filters




GETTY

The claims made by furnace filter manufacturers are true: A high-efficiency filter can provide some relief from allergies. By trapping smaller airborne particles, these filters make the air in your home cleaner and less irritating to allergy sufferers. But before you install a high-efficiency filter, there are a few things worth knowing:

■ **High-efficiency means higher cost.** If you're currently spending $20 per year on cheapie filters, prepare for sticker shock. You can easily spend $100 per year on high-efficiency filters.

■ **What the numbers mean.** Furnace filters are labeled with a numerical efficiency rating. A higher number indicates higher "efficiency." That simply means the filter traps smaller particles. When it comes to furnace filters, "efficiency" does *not* mean energy savings.

■ **The numbers are tricky.** MERV is the most common rating system. But some filters carry "MPR" or "FPR" ratings (see "How Furnace Filters Are Rated," below). A MERV 13 is roughly equivalent to an FPR 10 filter. Luckily, there are several charts online to help you convert the numbers. Just search for "MERV vs MPR vs FPR."

## How furnace filters are rated

Many filter manufacturers follow the Minimum Efficiency Reporting Value (MERV) rating system established by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). The MERV number is an indication of the filter's effectiveness at trapping particles. A MERV 1 filter traps dust bunnies but allows most dust to pass right through, while a MERV 16 traps bacteria and particles as small as .30 to 1.0 micron and is used mostly in operating rooms. If you don't have allergies, a MERV 7 furnace filter will work just fine in your home. And if you do have family members with allergies, go up to a filter with a MERV 11 rating.

However, some filter manufacturers and retailers have developed proprietary rating systems like Microparticle Performance Rating (MPR) or Filter Performance Rating (FPR). Before you buy a filter based on an MPR or FPR rating, look for a MERV to FPR/MPR chart online (nordicpure.com/info/what-is-merv is one site) or contact your furnace service company for a filter recommendation based on your particular furnace.

■ **Higher isn't always better.** If no one in your home suffers from allergies, there's no reason to go higher than MERV 7. For allergies, MERV 11 is your best choice because higher-rated filters cost more but don't provide much extra relief.

■ **Don't trust the life-span claims.** Filters carry claims like "lasts up to 90 days." But the life span of a filter depends on how clean the air is in your home and how much your heating/cooling system runs. No manufacturer can possibly know that.

■ **Filters are not enough.** Furnace filters help, but for allergy sufferers, reducing dust in your home is even more important. That mostly consists of frequent vacuuming with high-quality vacuums and filters and/or eliminating carpeting and rugs as much as possible. For tips on dust control, go to familyhandyman.com and search for "allergies."

■ **"Efficiency" can wreck your furnace.** High-efficiency filters have smaller pores, which can reduce airflow when new and even more as they clog. That can make the furnace overheat, causing it to shut down or burn out the expensive blower motor. The repair bills can easily run hundreds of dollars, not to mention the increased energy costs to run the stressed blower motor. (To protect your system, see below.)

## Prevent furnace damage with a filter monitor

A filter that's plugged with particles may not look dirty. And the manufacturers' life-span estimates are nearly worthless. So how can you tell when a filter is dirty enough to stress your heating/cooling system? You can't unless you install a filter monitor. They're available in two versions:

■ Mechanical filter monitors are inexpensive and take about five minutes to install, even if you're a beginning DIYer. They're available online for less than $20 (search for "furnace filter monitor"). The downside is that it relies on your memory. If you forget to check it, you won't know when the filter is clogged.

■ Electronic filter monitors let you know when the filter needs replacing. The unit shown (the FILTERSCAN WiFi; $100 online), for example, connects to your home's Wi-Fi and sends an alert to your smartphone. Installation is as simple as driving a few screws. Just find a location on your return air duct and predrill holes (**Photo 1**). Then mount the unit (**Photo 2**) and follow the calibration and Wi-Fi setup instructions.

**1 DRILL MOUNTING HOLES**
Tape the template to the return air duct between the filter holder and the furnace. Stay at least 6 in. away from the filter holder. Then drill screw holes in the duct.

**2 MOUNT AND CALIBRATE THE MONITOR**
Screw the monitor to the duct and install the batteries. Turn off the furnace and press the calibrate button. Then install a new filter, turn on the furnace, raise the thermostat setting and wait until the blower kicks in. Press the calibrate button again. Then install the cover.

BY RICK MUSCOPLAT editors@thefamilyhandyman.com

# 10 things you should know about gasoline

Do you think premium gas is free of ethanol and the best choice for small engines? Do you ever treat your car to an occasional tank of premium because you think it cleans fuel injectors better and provides more power? If you've ever been confused by which gas to use and why, this story is for you.

We consulted gasoline expert Fred Walas of Marathon Petroleum Company, the fourth-largest refining company in the United States. He gave us the lowdown on regular vs. premium fuels, and answered all our burning questions about gasoline.

## MEET THE EXPERT

**Fred Walas, P.E., is the fuels technology manager for Marathon Petroleum Company. With 34 years in the refinery business, Fred knows exactly how gasoline works in modern engines. In his current job, Fred works with the EPA, other oil companies and automobile manufacturers to develop new fuel standards.**

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## 1 Is premium or mid-grade fuel worth the extra money?

Premium gas doesn't provide any more power or contain better additives than regular gas, and it contains the same amount of ethanol as other grades. It just resists detonation (knock) better than lower-octane gas—nothing more, nothing less.

Some brands place slightly more detergent additive in their premium than in their other grades, but all grades meet the minimum required by the EPA. Bottom line? The carmaker knows best, so use the octane-rated fuel that's called for in your owner's manual. If your engine requires or "recommends" 89- or 93-octane fuel, that's what you should use to get peak performance and fuel efficiency. But there is an exception to the rule.

If you have an older car that's designed for 87-octane gas and it knocks when you punch the pedal, try filling it with 89-octane fuel to see if the knock goes away. If so, keep using 89-octane to regain some power and save your engine. That knocking sound is your pistons and connecting rod bearings crashing against the cylinder walls and the crankshaft—not good.

## 2 How long can gas be stored?

If you store gas for your small engines in a tightly sealed container (allow some room for expansion at the top of the can), it'll last for a season. However, if your gas container doesn't seal tightly or you leave the spout off, airborne moisture and condensation can cause ethanol separation, oxidation and gum formation. Ethanol corrodes the carburetor and damages fuel line components, and gum, well, just gums up the works.

Adding fuel stabilizer to fresh gas reduces the risk of separation, oxidation and gum formation, but it can't compensate for sloppy handling. Investing in a better-sealing gas container costs a lot less than a carburetor rebuild.

## 3 Are there any gas additives worth using?

No "magic" or "revolutionary" additives will increase your fuel efficiency. However, some owners like to add fuel-system cleaning additives periodically. Many companies make the type you add to your tank. The most effective ones have polyisobutylamine (PIBA) and polyetheramine (PEA), so look for one of those ingredients on the label. Follow the product's directions for treat rates. Avoid all other gas additives!

## 4 Is a major-brand gas better than a lesser-known brand?

Twenty years ago, there was a difference between gas from the major brands and "cheap" gas from no-name stations. Today, the biggest difference between gasoline brands is the type of fuel-system cleaning additives used. However, the EPA mandates a minimum level of fuel-system cleaning additives, and all gasoline sold in the United States must meet those levels.

There are other, minor, differences. Gasoline is a blend of more than 150 components, and every brand uses its own formula. So you may find that one brand performs better than a different brand in your car or provides a slight mileage advantage. However, that same brand and grade may not perform as well in a different engine. So it's impossible to make broad claims that one particular brand is best for all vehicles.

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## 5 What's the best way to dispose of old fuel?

You can add up to 1 gallon of old gas to your vehicle's tank, but it should be nearly full of fuel to dilute the old gas. However, you should take old premixed (oil and gas) fuel for two-cycle engines to a nearby hazardous waste recycling center. Don't add it to your car or truck.

## 6 What is non-oxygenated (ethanol-free) gas and when should it be used?

Refiners add ethanol to gasoline to increase the fuel's oxygen content and to comply with federal law. As a side benefit, ethanol is one of a few gasoline components with a high octane rating. Non-oxygenated gas doesn't contain ethanol, so it eliminates corrosion problems when left in the fuel system for long periods. That makes it a great choice for engines that are stored in the off-season. Plus, it's the fuel to use if you own an older boat that wasn't designed for ethanol fuels.

But non-oxygenated gas isn't entirely trouble-free. It still oxidizes and forms gum over time, so you should observe the same fuel storage precautions listed above and treat it with fuel stabilizer when you buy it. To find a station that sells "non-oxy" gas, go to pure-gas.org.

## 7 What's the difference between summer and winter blends?

Gasoline burns only when it's a vapor. Unfortunately, carburetors and fuel injectors don't vaporize gas; they just atomize it (make liquid droplets). Atomized gas converts to vapor easily in summer heat but needs help when it's cold. So refiners change to a winter blend with more butane and other lighter hydrocarbons when cold weather arrives. When summer comes, they cut back on those components and return to normal summer blends. This is another reason to use gas for only one season—you'll always have the proper formulation for the weather.

## 8 Is E-85 fuel the best choice in flex-fuel vehicles?

A flex-fuel vehicle is capable of running on both regular E-10 (10 percent ethanol) and E-85 (85 percent ethanol) gasoline. E-85, or more correctly, flex fuel, can have a wide range of ethanol content—anywhere from 51 to 85 percent depending on the season and the relative price of the ethanol and hydrocarbon.

However, because a gallon of "typical" E-85 provides 27 percent less energy than a gallon of E-10 gasoline, you'll get approximately 27 percent fewer miles per gallon. When E-10 gas prices are high, E-85 may provide some cost advantages. However, since market prices for ethanol vary quite a bit, you'll have to factor in the reduced mpg to decide whether E-85 is the best choice for your flex-fuel vehicle. Your wallet may be able to tell the difference with the fuel choice, but your car won't care.

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## 9 Is premium or regular fuel best for small engines?

Some people fill their small engines with premium gas based on the mistaken notion that all premium gas is ethanol free or that it'll help the engine run better. In fact, 95 percent of all gas sold in the United States (regular, mid-grade and premium) contains ethanol.

Since most small engines don't have engine management computers to compensate for different fuels, you should always use the fuel recommended by the engine manufacturer. Believe it or not, small engines generally start and run best with regular fuel.

## 10 Can modern gas be used in old cars designed for leaded gas?

Tetraethyl lead did double duty by increasing octane and reducing valve seat wear on older vehicles (mostly pre-1970). Later-model vehicles usually have much harder valve seats, so unleaded gas isn't a problem.

However, if you own an older vehicle, you have three options: Buy a bottle of lead substitute at any auto parts store and add it to each tank (adds about 3¢ per gallon), have the cylinder heads rebuilt with harder valve seats, or just fill with unleaded gas and rebuild the cylinder heads when they fail.




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# What homeowners MUST know

BY GARY WENTZ editors@thefamilyhandyman.com

HAMPTON BAY

## FEEL COOLER IN HIGHER TEMPERATURES

Ceiling fans save money on air conditioning costs by keeping you comfortable at higher thermostat settings. Each degree higher than 78 degrees will save you 5 to 10 percent. The moving air from a ceiling fan increases evaporation from your skin and helps cool you off.

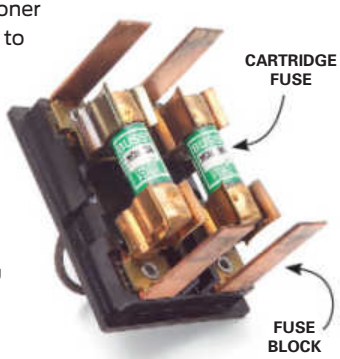
## Tweak your oven temp

If the temperature in your oven seems off, or if your new oven just doesn't cook like your old one, you can recalibrate the temperature setting. Use the instructions in your manual or go online and search for a downloadable version using your oven's model number. Place a good-quality oven thermometer on the center rack and wait for the oven to maintain a constant temperature. Then follow the procedure outlined in your manual to match the temperature setting to the thermometer reading.

ART DIRECTION MARY SCHWENDER • PHOTOGRAPHY HSP • ILLUSTRATION STEVE BJÖRKMAN

## A/C won't come on? Check the fuse

If you turn your central air conditioner on, off and then on again in rapid succession, chances are you'll blow a fuse or shut off a circuit breaker or the air conditioner simply won't respond. Be patient and give the air conditioner thermostat about five minutes to reset. If it still won't come on, you may have blown a fuse. Locate the special fuse block near the outside unit. Pull out the block and take the whole thing to the hardware store. A salesperson can test the cartridge fuses and tell you if you need to replace them.



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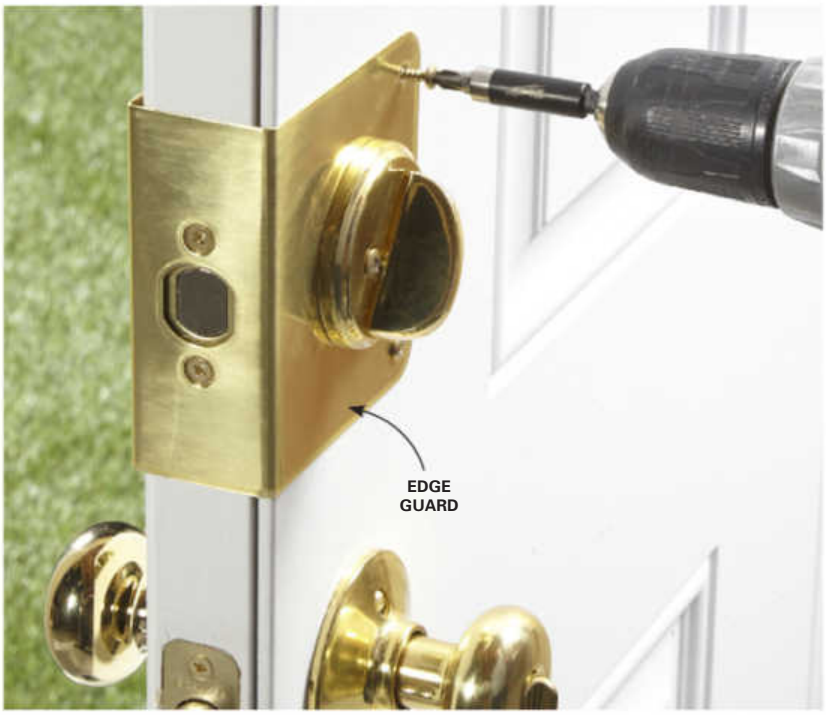
# BURGLARPROOF DOORS

Burglars don't usually pick locks. That takes too long. Instead, they kick or pry the door open. The dead bolt usually survives that brute force, but the door or strike plate gives way. Here's how to beef up those weak spots:




## Strengthen the door

When kicked or pried, doors often split. Even steel doors are surprisingly easy to split. To prevent that, install an edge guard (available at home centers). Just remove the dead bolt, slip the guard over the door, screw it on and reinstall the dead bolt. Larger models back up both the dead bolt and the doorknob.

## Strengthen the strike plate

A bigger strike plate is better than a smaller one, but the key factor is the strike plate's screws. It's critical that they not only penetrate the door-jamb but also sink deep into the wall framing behind the jamb. To check, just remove one of the screws. If it's less than 3 in. long, replace the screws. For even better protection, install a larger strike plate that allows for more than two screws.

## Clean the lint filter

A clogged lint filter means clothes dry slower while the machine works harder and wastes energy. If it gets bad enough, this will lead to repairs or even complete replacement of the dryer. Avoid all this simply by cleaning the lint filter after each load.

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# DIY Quiz Answers

**1. True**. Both the top and the bottom pivot brackets, which are on the jamb side, can be adjusted, and you can also raise or lower the door by adjusting the bottom pivot.

**2.** (**A**) To flatten a cupped board, first send it through the planer with the convex side up until that side is flat. Then flip it over and plane down the concave side. A long, bowed or twisted board will hold its shape no matter how many times you plane it.

**3.** (**C**) It doesn't matter which wire goes on which screw, because all the doorbell button does when you push it is allow the power to flow from the transformer to the bell. There's no neutral wire involved. If you discover you have a bigger problem, (D) is usually the easiest solution, but tape the wires before you stuff them into the wall.

**4.** (**C**) The Murphy bed was named after its inventor, William Lawrence Murphy, who patented it in 1900. It's also called a hideaway bed or a tilt-away bed.

**5. False**. Always measure from the bolts to the finished wall. Standard toilets have a 12-in. rough-in; 10-in. and 14-in. models can be ordered but cost more. If you're replacing a toilet, always get the same rough-in size.

**6.** (**C**) Adding a gable dormer is a great way to expand the usable floor space and headroom on a top floor. A shed dormer looks as if a section of the roof were lifted up on a hinge. An eyebrow dormer is curved and basically looks like an eyebrow. Valley dormers don't exist.

**7. True**. A 92-5/8-in. stud combined with a single 2x4 bottom plate and a double 2x4 top plate equals 97-1/8 in. After you put the ceiling up, you're left with about a 96-1/2-in. space, which is exactly what you need for two horizontal sheets of drywall with a little wiggle room. Install the top sheet first, then lift the bottom sheet tight with a roll lifter or pry bar.

**8. False**. Cutting the vertical at 44-3/4 degrees would open the top of the miter even more. Setting the miter saw at roughly 45-1/4 degrees would close up the top. But experiment with a piece of scrap first—these cuts are tricky.

**9. True**. A floating ball will rise with the rising water and seal against a lip under the drain, preventing the backflow, though it will eventually come out somewhere else. If your floor drain doesn't already have one, you can easily retrofit one. Just ask for a backwater valve.

**10.** (**A** & **C**) A 3-in. screw will draw the top hinge closer to the framing that surrounds the door, since there's usually a little space between the jamb and the framing. As the hinge is drawn in, it pulls the top of the door in and lifts the handle side of the door bottom. It doesn't always work, but it's the easiest fix for a sticking door and worth trying.

## WHAT'S YOUR LEVEL OF EXPERTISE?

**Beginner: 0 – 3 correct**
**Intermediate: 4 – 7 correct**
**DIY Guru: 8 – 10 correct**

# PRO talk

BY MARK PETERSEN editors@thefamilyhandyman.com

ART DIRECTION MARCIA ROEPKE • PHOTOGRAPHY HSP

## A quiet driver

I was ecstatic when impact drivers first came out (I get that way about tools). Stripped-out screw heads practically became a thing of the past. But there was a trade-off—the noise. The thunderous clanking produced by the drivers made hearing protection a necessity.

But I'm ecstatic once again with my new Ridgid Stealth Force Pulse Driver. The hydraulic oil pulse mechanism provides more power than my last driver, but more important, it's quiet. It's half as loud as my old one. The driver, two batteries and a charger cost $199. I got mine at The Home Depot.

**Josh Risberg, *TFH* Lead Carpenter**

## Clean out your pouch with a magnet

When you're in the remodeling business, you have to be a jack-of-all-trades. It's not unusual to tackle siding, drywall and trim one right after the other, sometimes all in the same week.

With all the different projects, it doesn't take long for a tool pouch to become a mess of various nails and screws. About once a week. I would grab a magnet that I used for cleanup to pull out the mismatched fasteners. That way I didn't have to dump out all my tools along with the fasteners.

**Mark Petersen, Associate Editor**

## Demo chisel

One of my favorite demo tools is a common wood chisel. I keep one in my pouch at all times. I use it to shear off nail and screw heads, scrape paint, remove caulk and putty, and pry up tiles. I even use it to chisel wood once in a while. When the tip gets beat up, I sharpen it on a grinder but never razor sharp. I don't want it poking through my expensive leather pouch, and I don't want to cut myself grabbing for it.

**Travis Larson, Senior Editor**

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## ACCESS DENIED

My summer project was updating my garage with new cabinets, ceiling-mounted storage racks and floor paint. Everything was going great until a telephone technician needed access to the attic space above the garage to inspect the wiring. When I tried to pull down the folding access ladder for the attic, it wouldn't unfold because my new ceiling rack was in the way. Oops! From now on, I'll try to remember the six P's: Pre-planning prevents pretty poor performance.

**Mark Warda**

## Lattice lesson

After finishing my porch deck, I decided it needed a skirt to hide the ugly footings. I cut a couple of 4 x 8-ft. lattice sheets to size then crawled underneath the deck to nail them up. Relieved that the job was nearly done, I started to wiggle out through the last open portion only to realize it was too small. I had jailed myself!

Fortunately I was able to pull free a good-size section and make a hasty escape before the neighbors could catch the show.

**Randall Deane**

## Blowing it

A long time ago, I worked as a maintenance man at a large apartment complex. One of my jobs was to run the snow blower. One night, it snowed about 12 in., so I had my work cut out for me. I started by clearing a path under a large canopy, close to the lobby where a few old guys were sitting inside having coffee.

The snow was blowing in my face, making it hard to see where I was going. But I kept right on until I heard a loud thump and laughter coming from the lobby. Turns out I'd plowed right into the bumper of a very expensive Cadillac, to the tune of about $1,400 in damages. Not my best day!

**Christopher Anglin**

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